

From science in the Arctic to Arctic science:  
a transnational study of Arctic travel narratives, 1818-1883

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## **Abstract**

This thesis examines the making and communicating of knowledge about the Arctic from a transnational perspective between 1818 and the First International Polar Year in 1882-83. By examining both well-known and hitherto neglected narratives from Danish, British, and British-Canadian Arctic explorations, I show that changes in ideas about what it meant to be an authoritative observer of Arctic phenomena were linked to tensions in imperial ambitions, national identity, and international collaboration. By framing polar surveying in the broadest sense as the ordering and quantifying of nature through travel, I analyse how abstract notions of the Arctic became tangible in the nineteenth century. I am concerned with the practices of writing the Arctic experience, especially the relationship between science, and the strategies for constructing a trustworthy narrative voice. That is, I investigate the ways in which the identities of the explorers and the organizing bodies shaped the expeditions, and by extension the representation of the ventures, the explorers, and the science they produced. In doing so, I argue that the Arctic played a key role in shaping Western science, and understandings of national and imperial identities, and that travel narratives were a significant resource for communicating this knowledge. This thesis is divided into four chapters that each considers three case studies, roughly organized according to chronology. Drawing on major themes within British and Danish imperial history, Canadian studies, studies in travel writing, history of science, transnational and global history, and environmental studies, I show how perceptions of the Arctic as a field-site for the production of

scientific knowledge varied according to time and place throughout the nineteenth century, and how this influenced science in the Arctic. In particular, I show the shift from early scientific practices during Arctic explorations, to a more unified Arctic science as part of the International Polar Year. What emerges is a new and interdisciplinary look at how science was produced in the Arctic, how this information was perceived by both a specialist and general reading audiences, and how this process differed depending on national and cultural contexts at different points in the nineteenth century.

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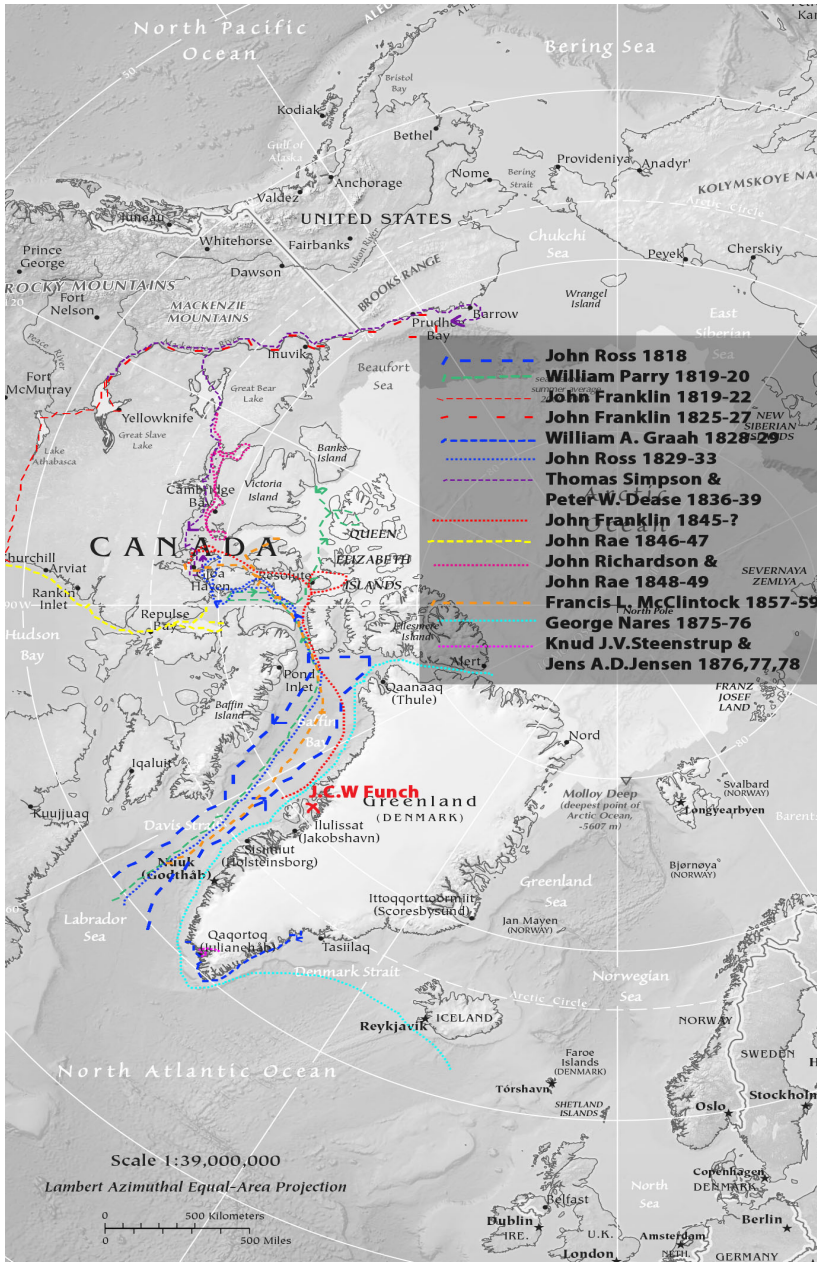


Figure 1. Map showing the routes of the main expeditions examined in this thesis. Original map produced by the U.S. Central Intelligence Agency, my edits<sup>1</sup>

<sup>1</sup> U.S. Central Intelligence Agency, "Arctic Region," 2009, University of Texas Libraries, The University of Texas at Austin, <http://www.lib.utexas.edu/maps/polar.html>.

## Introduction

In no quarter of the globe has the spirit of geographical discovery made nobler efforts, displayed a more heroic endurance, or exhibited higher qualities of mind, that [sic] in encountering the difficulties and dangers of the Arctic Regions. Science has, no doubt, obtained some valuable accessions to her stores from those hyperborean sources; but they have been acquired by a large expenditure of money, and of – what is far more precious – human life and suffering.<sup>1</sup>

- Anon, *The North Devon Journal*, 9 May 1850

Science in the Arctic changed dramatically in the nineteenth century. There was a transition from the early, scattered attempts at collecting knowledge about the natural world in the region, to a more unified Arctic science by the early 1880s. However, as the anonymous author in *The North Devon Journal* lamented, Arctic explorations were expensive, and it was not obvious to everyone that the scientific results were worth the cost. The article was published following the disappearance of John Franklin's expedition, which had left England in 1845, in search of the Northwest Passage. There had been other tragedies in the Arctic before this, but it

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<sup>1</sup> "The Arctic Expedition," *The North Devon Journal*, May 9, 1850, Gale NewsVault.

was the first complete loss of an expedition, and it brought to the fore the dangers of travelling in the region. This was Franklin's third expedition, and if such a seasoned explorer and his team could disappear, would future missions be worth the investment? As a field-site the Arctic was fundamentally uncertain. But the uncertainty, and how it influenced the nature of the Arctic expeditions, also depended on the organizers and their national contexts. In this thesis I examine the construction and representation of scientific practices in the British North American and Greenlandic Arctic as expressed through travel narratives from nineteenth-century British, Danish, and Canadian Arctic expeditions. In what follows I build upon and move beyond previous scholarship by combining four broad historiographical themes to provide a new and nuanced perspective on nineteenth-century scientific practice in the Arctic. In doing so, I complicate our understanding of scientific practices in the Arctic, and the various socio-political factors that shape that construction. No single perspective fully shows this story, and it is only through a multi-disciplinary approach that we can begin to understand the nature of Arctic science.

Multiple governments, trading companies, learned societies, and individuals were interested in extracting natural resources from the Arctic, and establishing personal and imperial authority in the region. In addition to geographical surveying and determining the types of financial gains that Europeans could make in the Arctic, the expeditions had the advancement of scientific knowledge as a key aim. Cataloguing the Arctic was a way to determine what resources could be extracted for financial profit, but this region was also attractive to many scientific

practitioners, as it was possible to study phenomena and natural life not present in other places. The Arctic was a place where many sciences expanded their knowledge, including geology, anthropology, ethnography, medicine, geography, hydrography, meteorology, magnetic and astronomical science, botany, natural history, and glaciology. Early explorers were expected to collect knowledge relating to all of these fields, and their efforts and results were detailed in the travel narratives. Yet, there was not always a correlation between what the organizers, supporters, and the explorers hoped to achieve scientifically, and what they actually produced. The scientific practices of Arctic explorers and the type of scientific knowledge that was produced depended on the abilities and interests of the crew, and the luck of the expeditions. As such, the knowledge produced in the Arctic added to a broad range of scientific fields, rather than a distinct Arctic science. This was the case until the First International Polar Year (IPY) between 1882-1883, where there was a concerted effort to establish a unified method for scientific practice in the Arctic and Antarctica in order to optimize the scientific output. In a way, this thesis is therefore about the disciplinary development of Arctic science. Yet, it is not a traditional study of disciplinary formation.

Some of the key ways of tracing the disciplinary formation of scientific research fields is by examining seminal figures, the establishment of learned societies devoted to that discipline, the development of specialized journals and textbooks, and educational centres. This form of research typically examines how a research field became a unified body, most often in the metropole, and how popular or elite scientific practitioners utilized and shaped the knowledge through various

outlets. The following chapters show a different story, one that emerges in the periphery. This thesis is not a study of how scientific achievements in the Arctic contributed to the disciplinary formation of scientific fields in the metropole. Rather, I approach travel narratives as scientific documents in their own right. I am concerned with the practices of writing the Arctic experience, especially the relationship between science and the strategies for constructing a trustworthy narrative voice. In doing so, I show that changes in ideas about what it meant to be an authoritative observer of Arctic phenomena, were linked to tensions in imperial ambitions, national identities, and international collaborations.

This thesis is divided into four chapters, which are connected by four major historiographical themes. Through an exploration of these themes I show the changing function and nature of Arctic science as expressed through travel narratives, which sheds new light on the complicated relationship between imperialism, science, and international collaboration in the Arctic. What comes to the fore is an important story of how global science in the modern world came to be. The first overarching theme is the role of travel narratives in shaping knowledge about the Arctic. Narratives were not simply accounts of expeditions. Rather they were fashioned according to certain standards and criteria. A key feature was that authors read each other. They repeated, commented upon, and adjusted the points made by one another. This dialogue between the author and past explorers worked to further the cultural and scientific authority of some, and discredit that of others. Perceptions of truthfulness were crucial, and this is closely linked to the second major theme, which is the identity of the explorer. As Innes Keighren, Charles



Withers, and Bill Bell have written, “[q]uestions of epistemology and truth telling in print were ineluctably linked to the status of one’s informant, the social standing of the author, or the warrant by association that came with being officially sanctioned to have undertaken the travel or the exploration by a government or a scientific body.”<sup>2</sup> Building on this point, I explore in what ways the identities of the explorers and the organizing bodies shaped the expeditions, and how this influenced the representation of the ventures, the explorers, and the science they produced.

The third theme is the intersection of imperialism and science. Financial considerations were hard to overlook, as the Arctic afforded – or appeared to afford - opportunities to exploit natural resources for economic gain, and develop trade passages, or expand existing trading routes. Closely linked to this are imperial aspirations, including who should have the power to control access to the Arctic, and the potential resources and trade undertaken there. Science was a central part of knowing and claiming ownership of the resources in the Arctic, and it had an important function during expeditions organized by governments, trading companies, religious missions, and individual investors. The fourth theme that emerges in this thesis is the transnational perspective, which takes on multiple forms. Moving beyond previous studies that are nation-focused, I show that Arctic science was inherently transnational in nature.<sup>3</sup> Throughout the four chapters I

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<sup>2</sup> Innes M. Keighren, Charles W. J. Withers, and Bill Bell, *Travels Into Print: Exploration, Writing, and Publishing with John Murray, 1773-1859* (Chicago: University of Chicago Press, 2015), 17.

<sup>3</sup> Examples of more nation-focused studies includes, Trevor H. Levere, *Science and the Canadian Arctic: A Century of Exploration, 1818-1918* (Cambridge: Cambridge University Press, 2004); Janice Cavell, *Tracing the Connected Narrative: Arctic*

compare and contrast the Danish, British, and Canadian presence in the Arctic, while also touching on the perceptions and attitudes towards international collaborations in the Arctic. In all cases, I argue that a more comprehensive understanding of the Arctic as a field-site can be developed through a transnational perspective on travel narratives, and the identity of the Arctic explorer.

### **A note on the Arctic**

The Arctic is a vast polar region that is currently considered to spread across Canada, the US, Russia, Denmark, Sweden, Norway, Finland, Iceland and the Arctic Ocean. The understanding of what the Arctic was changed throughout the nineteenth century, as more areas were discovered. In this thesis I focus on the British North American Arctic, and Greenland. The promise of easier trade lines to the Pacific spurred on the search for a North West passage, and for a while the North Pole was believed to be located within the hypothesized Open Polar Sea (Polynia) which would also provide a route to the Pacific. In British North America, Hudson's Bay was a central point of departure for explorations into the north. The Hudson's Bay Company (HBC) was a key political player in the Arctic and funded many

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*Exploration in British Print Culture, 1818-1860* (Toronto, Buffalo, London: University of Toronto Press, 2008); Jen Hill, *White Horizon: The Arctic in the Nineteenth-Century British Imagination* (Albany: State University of New York Press, 2009); Russell A. Potter, *Arctic Spectacles: The Frozen North in Visual Culture, 1818-1875* (Seattle, Washington: University of Washington Press, 2007); E. Wilson, *The Spiritual History of Ice: Romanticism, Science and the Imagination* (New York: Palgrave Macmillan, 2003).

important explorations. Geopolitically, Greenland was a central area where many explorations took place, and was dominated by the Kongelige Grønlandske Handel (KGH). The decision to focus on the British North American Arctic and Canada, excludes Alaska, the Russian Arctic, Antarctica, the Norwegian Arctic, and Svalbard. This decision was taken for both practical and historical reasons. While these regions were also of great significance throughout the nineteenth century, the North American Arctic and Greenland were characterized by a continual presence of figures from Denmark, Britain, and Canada. This allows for a degree of continuity in the narrative structure. The omitted regions will be touched upon throughout the thesis, when they appear as significant points of comparison for the historical actors.

## **Historiography**

Travel literature was a key evidentiary resource for multiple scientific disciplines in the nineteenth century. It was also a popular genre, one that catalogued distant lands, strange animals and plants, and unfamiliar cultures. The practice of travel writing extends far beyond the nineteenth century. As Tim Youngs and Peter Hulme have noted, “[w]riting and travel have always been intimately connected.”<sup>4</sup> There is a growing historiography on travel literature, and a key feature in this scholarship is

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<sup>4</sup> Tim Youngs and Peter Hulmes, eds., *The Cambridge Companion to Travel Writing* (Cambridge, U.K.; New York: Cambridge University Press, 2002), 2.

its interdisciplinary perspectives.<sup>5</sup> Consequently, there are many different approaches to studies in travel writing. Keighren, Withers, and Bell have identified four key scholarly fields related to travel literature: history of science, history of art, history of cartography and geography, and history of the book.<sup>6</sup> In addition, Daniel Carey and Claire Jowitt have shown how multiple theoretical approaches including post-colonialism, gender studies, cultural studies, and 'New Historicism' have productively engaged with early modern travel writing.<sup>7</sup> This speaks to the broad influence of travel writing, in all its forms.

The representation of Arctic science in the British periodical press has recently become the subject of scholarly interest.<sup>8</sup> Notably, Jen Hill has examined

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<sup>5</sup> Significant examples include, Tim Fulford, Debbie Lee, and Peter J. Kitson, *Literature, Science and Exploration in the Romantic Era: Bodies of Knowledge* (Cambridge: Cambridge University Press, 2004); Charles W. J. Withers, *Placing the Enlightenment: Thinking Geographically about the Age of Reason* (Chicago: University of Chicago Press, 2007); Keighren, Withers, and Bell, *Travels Into Print*; Jaś Elsner and Joan Pau Rubiés, *Voyages and Visions: Towards a Cultural History of Travel* (London: Reaktion Books, 1999); Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London, New York: Routledge, 1992); Youngs and Hulmes, *The Cambridge Companion to Travel Writing*; Miguel A. Cabañas et al., eds., *Politics, Identity, and Mobility in Travel Writing* (New York, Oxon: Routledge, 2015); Angela Byrne, *Geographies of the Romantic North: Science, Antiquarianism, and Travel, 1790–1830* (New York: Palgrave Macmillan, 2013); Elizabeth A. Bohls and Ian Duncan, eds., *Travel Writing 1700-1830: An Anthology*, Oxford World's Classics (Oxford University Press, 2008); Tim Youngs, *Travel Writing in the Nineteenth Century: Filling the Blank Spaces* (Anthem Press, 2006); Clare Broome Saunders, ed., *Women, Travel Writing, and Truth* (Abingdon, New York: Routledge, 2014); Colin Coates, "Like 'The Thames towards Putney': The Appropriation of Landscape in Lower Canada," *Canadian Historical Review* 74, no. 3 (September 1993): 317–43.

<sup>6</sup> Keighren, Withers, and Bell, *Travels Into Print*, 6–10.

<sup>7</sup> Claire Jowitt and Daniel Carey, eds., *Richard Hakluyt and Travel Writing in Early Modern Europe* (Farnham, Surrey, Burlington: Ashgate, 2012), 4.

<sup>8</sup> Cavell, *Tracing the Connected Narrative*; Adriana Craciun, "Writing the Disaster: Franklin and Frankenstein," *Nineteenth-Century Literature* 65, no. 4 (March 1, 2011): 433–80; Hill, *White Horizon*.

Arctic narratives and the texts they influenced, and she has argued that the Arctic had an important symbolic function for imperial and national identities in Victorian Britain.<sup>9</sup> Another significant study is that of Janice Cavell, who examined the publication of Arctic explorations between 1818 and 1860, focusing on the periodical press.<sup>10</sup> While Hill focused on how ideas surrounding the Arctic were integrated into more elite nineteenth-century literature, Cavell in contrast examined the discourses surrounding the Arctic explorations in the general periodical press. Cavell argues that the discussion of Arctic explorers in the British press was shaped by a “connected narrative” of romance and heroism. Cavell’s approach is grounded in the history of British print culture, a field of study that has grown significantly over the last decade. The field has particularly benefited from the increase in digitization projects that have made available newspapers and journals for perusal online. In *Old Books and New Histories* (2006) Leslie Howsam identified three core disciplines in the study of the book and print culture: history, literary studies, and bibliography.<sup>11</sup> Howsam extrapolates on the difference in emphasis of the three core disciplines in their methodological responses to Robert Darnton’s influential ‘Communication Circuit Model’.<sup>12</sup> Thomas Adams and Nicholas Barker’s book-centred model, which proposes the use of a map instead of Darnton’s circuit

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<sup>9</sup> Hill, *White Horizon*.

<sup>10</sup> Cavell, *Tracing the Connected Narrative*.

<sup>11</sup> Leslie Howsam, *Old Books and New Histories: An Orientation to Studies in Book and Print Culture* (Toronto, Buffalo: University of Toronto Press, 2006).

<sup>12</sup> Robert Darnton, “What Is the History of Books?,” *Daedalus* 111, no. 3 (1982): 65–83; Robert Darnton, “What Is the History of Books? Revisited,” *Modern Intellectual History* 4, no. 3 (2007): 495–508.

exemplify a critique from bibliography studies.<sup>13</sup> Howsam lists Peter McDonald as an example of a critique from literary studies.<sup>14</sup> McDonald combined Pierre Bourdieu's cultural theory with the communication circuit, to stress the complexity of literary cultures. Finally, Howsam argues that James Secord's *Victorian Sensation* (2000) highlights the critique from history.<sup>15</sup> Secord uses the notion of 'literary replication' to replace Darnton's image of circulation. The image of literary replication underscores that reproduction is not equal to precise copying, adding focus to how books, including travel narratives, work outside the book trade.

Printed media were an important source through which information such as news, gossip, almanacs, and advertisements spread.<sup>16</sup> The British periodical press

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<sup>13</sup> Thomas Adams and Nicolas Barker, "A New Model for the Study of the Book," in *A Potencie of Life: Books in Society. The Clark Lectures 1986-1987*, ed. Nicolas Barker (London, New Castle: Oak Knoll Press, 1993), 5–43.

<sup>14</sup> Peter D. McDonald, *British Literary Culture and Publishing Practice, 1880-1914* (New York: Cambridge University Press, 2002).

<sup>15</sup> James A. Secord, *Victorian Sensation: The Extraordinary Publication, Reception, and Secret Authorship of Vestiges of the Natural History of Creation* (Chicago: University of Chicago Press, 2000).

<sup>16</sup> For studies focusing on the British context for periodical publishing, see Jonathan R. Topham, "Beyond the 'Common Context': The Production and Reading of the Bridgewater Treatises," *Isis* 89, no. 2 (June 1, 1998): 233–62; Jonathan R. Topham, "Science and Popular Education in the 1830s: The Role of the 'Bridgewater Treatises,'" *The British Journal for the History of Science* 25, no. 4 (December 1, 1992): 397–430; Jonathan R. Topham, "Scientific Publishing and the Reading of Science in Nineteenth-Century Britain: A Historiographical Survey and Guide to Sources," *Studies in History and Philosophy of Science Part A* 31, no. 4 (2000): 559–612; Bernard Lightman, *Victorian Popularizers of Science: Designing Nature for New Audiences* (Chicago: University of Chicago Press, 2009); Bernard Lightman, "Scientists as Materialists in the Periodical Press: Tyndall's Belfast Address.," in *Science Serialized: Representations of the Sciences in Nineteenth-Century Periodicals*, ed. Geoffrey Cantor and Sally Shuttleworth (Cambridge, Massachusetts: M.I.T. Press, 2004), 199–237; Aileen Fyfe, *Steam-Powered Knowledge: William Chambers and the Business of Publishing, 1820-1860* (Chicago, London: University of Chicago Press, 2012); Aileen Fyfe, *Science and Salvation: Evangelical Popular Science Publishing in*

underwent significant transformations in the middle of the nineteenth century. It grew rapidly, and new types of publications emerged.<sup>17</sup> Jonathan Topham has argued that the transformations that took place in British science during the nineteenth century correlated with changes occurring in print media and its readerships.<sup>18</sup> The changes that took place in print culture are rooted in a combination of several factors: the emergence of a growing reading audience, changes in paper taxation, developments in print technologies, and the telegraph. Leading on from this point, James Secord has argued that the making, communicating, and receiving of science information, cannot be properly separated, as “questions of ‘what’ is being said can be answered only through a simultaneous understanding of ‘how’, ‘where’, ‘when’, and ‘for whom’.”<sup>19</sup> Similarly, Bernard Lightman has shown using John Tyndall's Belfast Address from 1874 that the periodical press provided a battle ground for questions of authority, status, and

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*Victorian Britain* (Chicago, London: University of Chicago Press, 2004); Aileen Fyfe and Bernard Lightman, *Science in the Marketplace: Nineteenth-Century Sites and Experiences* (Chicago, London: University of Chicago Press, 2007); Secord, *Victorian Sensation*; James A. Secord, “Knowledge in Transit,” *Isis; an International Review Devoted to the History of Science and Its Cultural Influences* 95, no. 4 (December 2004): 654–72.

<sup>17</sup> For a detailed overview of British and Irish periodicals and their editors, publishers, and printers see, Laurel Brake and Marysa Demoor, eds., *DNCJ: Dictionary of Nineteenth-Century Journalism in Great Britain and Ireland* (Gent and London: Academia Press, 2009).

<sup>18</sup> Topham, “Beyond the ‘Common Context’”; Topham, “Science and Popular Education in the 1830s”; Topham, “Scientific Publishing and the Reading of Science in Nineteenth-Century Britain.”

<sup>19</sup> Secord, “Knowledge in Transit,” 664. See also Adrian Johns, *The Nature of the Book: Print and Knowledge in the Making* (Chicago: University of Chicago Press, 1998); Adrian Johns, *Piracy: The Intellectual Property Wars from Gutenberg to Gates* (Chicago: University of Chicago Press, 2010).

cultural elitism in Victorian society.<sup>20</sup> In Victorian England, scientific news was of particular interest. Gowan Dawson, Richard Noakes and Topham have noted that “[f]rom the perspective of readers, science was omnipresent, and general periodicals probably played a far greater role than books in shaping the public understanding of new scientific discoveries, theories and practices.”<sup>21</sup> Similarly, Cavell’s broad study of a wide range of periodicals shows the significance of the British periodical press in shaping knowledge and opinions about the Arctic and future Arctic expeditions. It draws attention to the fact that news about the Arctic voyages had circulated in the press prior to the publication of Arctic narratives, and highlights the interplay that existed between book and periodical. Cavell however pays little attention to the scientific aspects of Arctic explorations.

In this thesis, I follow a broad definition of the ‘explorer’, and ‘narrative of exploration’ or ‘travel literature’.<sup>22</sup> In doing so, I use terms such as ‘travel narrative’, ‘travel writing’, and ‘travel literature’ interchangeably, when referring both to narratives from large and small scale explorations, as well as the texts produced by more settled travellers such as missionaries. As Elizabeth Bohls and Ian Duncan have noted, “[t]ravel writing as a form or genre is not easy to pin down.”<sup>23</sup> That is not to say that the differences in exploratory format are irrelevant – to the contrary, they are essential. As the chapters in this thesis show, the style of exploration, and

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<sup>20</sup> Lightman, “Scientists as Materialists in the Periodical Press: Tyndall’s Belfast Address.”

<sup>21</sup> Geoffrey Cantor et al., *Science in the Nineteenth-Century Periodical: Reading the Magazine of Nature* (Cambridge, New York: Cambridge University Press, 2004), 1.

<sup>22</sup> I draw in particular on Keighren, Withers, and Bell, *Travels Into Print*, 7–8; Bohls and Duncan, *Travel Writing 1700-1830*, xvii, xx–xxvi.

<sup>23</sup> Bohls and Duncan, *Travel Writing 1700-1830*, xx.



the organizing bodies involved, had a large impact on expedition formats and the narratives. But opening up the categories of exploration and travel literature to include many types of travellers and their accounts, decentres the moment of discovery, or lack thereof, to bring out the key issues of authorship and the function and construction of scientific knowledge in the Arctic. As Keighren, Withers, and Bell argue, “[t]ravel writing is an analytical and interpretative category whose study involves the textual and stylistic analysis of works of travel and of exploration and, particularly of authorship, the style of writing, its underlying purpose, and the power of such writing to delimit, explain, or misrepresent the objects of its attention.”<sup>24</sup> I also draw on Mary Louise Pratt’s seminal work that shows how European travel literature on the extra-European world visualized and shaped relations and knowledge, and how the identity of the explorer influenced the choice of narrative.<sup>25</sup> Similarly, Miguel A. Cabañas, Jeanne Dubino, Veronica Salles-Reese, and Gary Totten have emphasised how travel narratives, rather than simply accounting for a voyage, are inherently political.<sup>26</sup> As scholars such as Topham, Lightman, and Secord have shown, it is important to consider the materiality of publications as shaped through a complex process of communication involving readers, authors, publishers and printers. Drawing these perspectives together, I show throughout this thesis that the process of writing travel narratives was political, involved more figures than the listed author, and that this influenced the textual construction of Arctic science.

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<sup>24</sup> Keighren, Withers, and Bell, *Travels Into Print*, 7.

<sup>25</sup> Pratt, *Imperial Eyes*.

<sup>26</sup> Cabañas et al., *Politics, Identity, and Mobility in Travel Writing*, 1–12.

The travel narratives I examine in the chapters that follow were closely tied to concerns over imperial authority in the Arctic. They are therefore linked to geopolitical issues as well as political questions of a more personal character, and as Cabañas, Dubino, Salles-Reese, and Totten write, “[w]e could view travel narratives as renegotiating cultural boundaries even while they actively establish such boundaries.”<sup>27</sup> Issue of boundaries and politics emerge throughout this thesis, from the charting of the Arctic coastal lines (a very physical boundary), to the choices of narrative format for the travel accounts. The boundary was also between truth and falsehood. Although I am not concerned with determining what was true and what was not, nineteenth-century readers of Arctic explorations were.<sup>28</sup> What constituted a trustworthy text depended largely on the author. It is useful to consider Steven Shapin and Simon Schaffer’s concept of virtual witnessing. Shapin and Schaffer argue that how one goes about determining how certain knowledge is produced, and who should have authority within a research field, was linked with the self portrayal of the natural philosopher as ‘objective’ and ‘modest’ as “[t]he technology of virtual witnessing involves the production in a reader’s mind of such an image of an experimental scene as obviates the necessity for either direct witness or replication.”<sup>29</sup> As I show throughout this thesis, it was important for explorers to construct their narratives in such a way that their observations were perceived as

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<sup>27</sup> Ibid., 1.

<sup>28</sup> For more on historiographical issues with truth judgments, see Keighren, Withers, and Bell, *Travels Into Print*, 11.

<sup>29</sup> Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*, Revised edition, first published 1985 (Princeton, Oxford: Princeton University Press, 2011), 60.

credible. However, what constituted a trustworthy account of Arctic phenomena was not straightforward, and the self-representation of Arctic explorers as authoritative and truthful observers of Arctic phenomena was not always effective.

### **The Arctic explorer**

Narrative choices and their effectiveness were linked with the identity of the explorers and organizing bodies. They depended, as Henrika Kuklick has argued, on nineteenth-century natural history fieldwork, to a certain extent on the “personal equations”.<sup>30</sup> According to Kuklick, the professionalization of science in the mid-nineteenth century was linked with changes to perceptions of the fieldworker. Kuklick argued that “[e]nhanced regard for fieldwork as moral education also derived from a new, Victorian-era mind-set: the view that personal growth (of an implicitly masculine sort) was effected through pilgrimages to unfamiliar places, where the European traveller would endure physical discomfort and (genuine or imagined) danger.”<sup>31</sup> Perceptions of fieldwork and the associated physical ardour changed, according to Kuklick, from dirty and ungentlemanly, to heroic – and this often depended on the self-representation of the fieldworker.<sup>32</sup> Similarly, Bruce Hevly has argued that “[a]lpinist-scientists ... presented themselves as arguing from

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<sup>30</sup> Henrika Kuklick, “Personal Equations: Reflections on the History of Fieldwork, with Special Reference to Sociocultural Anthropology,” *Isis* 102, no. 1 (2011): 1–33.

<sup>31</sup> *Ibid.*, 12–13.

<sup>32</sup> For a problematization of the wider implications of Kuklick’s analysis of fieldwork within the disciplinary development of anthropology, see Efram Sera-Shriar, *The Making of British Anthropology, 1813–1871* (London and Brookfield: Pickering and Chatto, University of Pittsburgh Press, 2013).

first-hand experience on the subject of glacier mechanics and appealed to the deference due them as men who had undergone a rigorous experience on behalf of science.”<sup>33</sup> Fieldwork in the Arctic did not follow this path of development. Rather, the explorer-fieldworker was described in heroic terms from the beginning of the nineteenth century, employing the same arguments based on appeal to first-hand experience as identified by Hevly in alpinist-scientists later in the century.

The Arctic as a space where British male heroic identities were established has been examined by scholars such as Jen Hill and Robert David.<sup>34</sup> Drawing on these perspectives, I show that the construction of the identity of the heroic Arctic explorer was not the only way to achieve authority. Janet Browne has identified three main categories of travelling naturalists and collectors, which shows that the identity of the traveller as well as their social circumstances were central in shaping the nature of the expeditions. Browne’s three main categories of explorers are freelance and independent entrepreneurs, navy or military employees, and those employed to collect natural history specimens.<sup>35</sup> In addition to Browne’s three main types of explorers I also examine narratives from additional categories of Arctic explorers. Throughout this thesis, I show the importance of considering additional groups of figures, including Indigenous informants, missionaries in the Arctic, private entrepreneurs that did not have independent funds but relied on patronage,

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<sup>33</sup> Bruce Hevly, “The Heroic Science of Glacier Motion,” *Osiris* 11 (January 1, 1996): 66.

<sup>34</sup> Hill, *White Horizon*; Robert G. David, *The Arctic in the British Imagination 1818-1914* (Manchester: Manchester University Press, 2000).

<sup>35</sup> Janet Browne, “Biogeography and Empire,” in *Cultures of Natural History*, ed. Nicholas Jardine, James A. Secord, and E.C. Spary (Cambridge: Cambridge University Press, 1996), 306–14.

and those employed by a trading company. As I show throughout the four chapters, the identity of the Arctic explorer, as well as the organizing body, had a profound impact on the nature of the expedition and the function and role of scientific practice in the Arctic.

In discussing the types of science undertaken during Arctic explorations, Russell Potter wrote:

It was not until the nineteenth century that a suitable ideal, an unimpeachable *casus explorationis* arose, in the form of the new understandings of the word 'science'. Science had essentially been a name for what was *known*, or for established methods; now, it was fast becoming a name for what was not known, and for the methods required to understand it. This was especially true in the new realm of 'natural sciences', particularly biology and anthropology, but it soon extended to geology, terrestrial magnetism and feats of mechanical engineering, such as the steam engine or the Suez Canal.<sup>36</sup>

Certainly there were important changes that took place in scientific practice in the nineteenth century. Peter Galison and Lorraine Daston argued that historically different approaches to visualizations of science are interlinked with the changing

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<sup>36</sup> Russell A. Potter, "Introduction: Exploration and Sacrifice: The Cultural Logic of Arctic Discovery," in *Arctic Exploration in the Nineteenth Century: Discovering the Northwest Passage*, ed. Frédéric Regard (London, Brookfield: Pickering and Chatto, University of Pittsburgh Press, 2015), 7.

epistemic ideals and values of scientific authority.<sup>37</sup> Galison and Daston proposed three 'periods': truth-to-nature, (mechanical) objectivity, and trained judgment.<sup>38</sup> But importantly, their division does not imply that science as such began in the nineteenth century, and they noted that the equation of objectivity with science *tout court* is false.<sup>39</sup> Potter's proposition that science before the nineteenth century meant 'what was known' in contrast with a later 'what was not known', distorts the history of science, including the history of Arctic science. Significantly, the demarcation of scientific practice in the nineteenth century as something fundamentally different than what came before misrepresents the significance of the scientific practices of Arctic explorers.

Because expeditions to the Arctic were expensive and dangerous, there was generally an expectation that explorers would contribute to a wide range of scientific disciplines in order to optimize the impact of their scientific contributions.<sup>40</sup> While other sciences were being institutionalized and professionalized throughout the nineteenth century, science in the Arctic retained – for very practical reasons – the same approach to knowledge making as in the early part of the century, as outlined below. This was both due to the cost of the

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<sup>37</sup> Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2007).

<sup>38</sup> *Ibid.*

<sup>39</sup> *Ibid.*, 28.

<sup>40</sup> See for example Jack Morrell and Arnold Thackray, *Gentlemen of Science: Early Years of the British Association for the Advancement of Science* (Oxford: Clarendon Press, 1981); Lightman, *Victorian Popularizers of Science*; James Elwick, *Styles of Reasoning in the British Life Sciences: Shared Assumptions, 1820-58* (Oxon, New York: Pickering and Chatton, Routledge, 2007); Crosbie Smith, *The Science of Energy: A Cultural History of Energy Physics in Victorian Britain* (Chicago: University of Chicago Press, 1998).

expeditions, the danger and unpredictability of the Arctic as a field-site, and reflected a particular ethos of collecting.<sup>41</sup> In the eighteenth century, Carl Linnaeus (1707-1778) developed a systematized method for cataloguing the natural world, known as binomial nomenclature. Linnaeus attempted, according to Lisbet Koerner, to make natural history in Sweden a “cameralist concept of a local modernity”, where states could be self-contained and free from foreign trade.<sup>42</sup> The Linnaean system was widely adopted by naturalists in the efforts to classify the entire globe.<sup>43</sup> The German naturalist Alexander von Humboldt (1769-1859), who Pratt has described as the starting point for the next generation of travellers, combined this system with his own ideas about how the scientific traveller could systematically catalogue the natural world.<sup>44</sup> Humboldt proposed a *physique du monde*, as a universal natural science of the Earth based on systematized observation,

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<sup>41</sup> There is a broad historiography on the history and politics of collecting natural history specimens, see for example Ernst Hamm, “Unpacking Goethe’s Collections: The Public and the Private in Natural-Historical Collecting,” *The British Journal for the History of Science* 34, no. 3 (September 2001): 275–300; Mott T. Greene, *Geology in the Nineteenth Century: Changing Views of a Changing World* (Ithaca, New York: Cornell University Press, 1982); David Roger Oldroyd, *Thinking about the Earth: A History of Ideas in Geology* (Cambridge Massachusetts: Harvard University Press, 1996); James A. Secord, “Introduction,” in *Principles of Geology [Selections from 1830-33], by Charles Lyell, ix-xliii*. (London: Penguin Classics, 1997); Bjorn Sundquist et al., “History of Geology in Norden,” *Episodes* 31, no. 1 (March 1, 2008): 185–92; Victoria Carroll, *Science and Eccentricity: Collecting, Writing and Performing Science for Early Nineteenth-Century Audiences* (London: Pickering and Chatto (Routledge), 2015); John V. Pickstone, *Ways of Knowing: A New History of Science, Technology and Medicine* (Manchester: Manchester University Press, 2000).

<sup>42</sup> Lisbet Koerner, *Linnaeus: Nature and Nation* (Cambridge Massachusetts: Harvard University Press, 2009), 1. See also Daniela Bleichmar, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment* (Chicago: University of Chicago Press, 2012).

<sup>43</sup> Koerner, *Linnaeus*.

<sup>44</sup> Pratt, *Imperial Eyes*, 111–44.

measurement, and experiments. This Humboldtian ethos was reflected in the official instructions to Arctic explorations organized by the Danish and British governments, in that they instructed their explorers to catalogue as much of the natural world as possible.<sup>45</sup> I show throughout this thesis that scientific practice in the Arctic maintained a Humboldtian ethos right through most of the century, rather than specializing concurrently with the disciplinary formation of other field based sciences. This was in part because of the uncertainty of the Arctic as a field-site. A shift in the scientific practices in the Arctic took place with the First IPY, as there was a concerted effort to unite and standardize the scientific methods of Arctic explorers, and diminish the uncertainty of the Arctic field-site through the establishment of permanent and semi-permanent stations. As science in the Arctic became more formalized towards the IPY, the associations of heroism changed, and this was particularly evident in the British reluctance to participate in the international collaborative project.<sup>46</sup> As I show throughout this thesis, this had to do

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<sup>45</sup> For more on the instructions for travellers, see Daniel Carey, "Compiling Nature's History: Travellers and Travel Narratives in the Early Royal Society," *Annals of Science* 54, no. 3 (1997): 269–292.

<sup>46</sup> Key sources on the First International Polar Year includes, F. W. G. Baker, "The First International Polar Year, 1882–83," *Polar Record* 21, no. 132 (1982): 275–85; Susan Barr and Cornelia Lüdecke, *The History of the International Polar Years (IPYs)* (Springer Science & Business Media, 2010); Philip N. Cronenwett, "Publishing Arctic Science in the Nineteenth Century: The Case of the First International Polar Year," in *Globalizing Polar Science*, ed. Roger D. Launius, James Rodger Fleming, and David H. DeVorkin, Palgrave Studies in the History of Science and Technology (New York: Palgrave Macmillan, 2010), 37–46; Yong Zhou, *The Histories of the International Polar Years and the Inception and Development of the International Geophysical Year: Annals of The International Geophysical Year*, 1st ed., vol. 1, Annals of the International Geophysical Year (London, New York, Paris: Pergamon, 1959); C. J. Taylor, "First International Polar Year, 1882-83," *Arctic* 34, no. 4 (1981): 370–76; Roger D. Launius, James Rodger Fleming, and David H. DeVorkin, eds., *Globalizing*



with perceptions of the Arctic explorer as heroic, as well as changes to the Arctic as a field-site.

### **Imperialism and science**

The identity of the Arctic explorer was also shaped by the imperial context of exploration. Who owned the Arctic, and who had the right to its resources and potential trading routes was a key motivating factor for the organization of many Arctic explorations. Exploration was part of the process of possessing and tracing the physical landscape of the Arctic was a key aspect of establishing imperial authority over the Arctic. It was difficult to claim authority over an unknown area. Yet, this was only one aspect of why science was significant for explorers. Equally important was how cataloguing the natural environment could show the types of resources that could be extracted for financial gain. Trevor Levere has shown how though science initially was a secondary priority for British explorers after geographical mapping, scientific activity became at least a joint primary motivation for explorations by the mid-nineteenth century.<sup>47</sup> Levere also emphasizes the significance of national concerns, international cooperation, and national rivalries, for sending out explorers to the Arctic. In Canada, which is Levere's primary focus, science in the Arctic was a way to establish sovereignty in the region and confirm or create a Canadian national identity.

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*Polar Science: Reconsidering the International Polar and Geophysical Years* (Palgrave Macmillan, 2010).

<sup>47</sup> Levere, *Science and the Canadian Arctic*.

The HBC was a central player in making North America accessible, and the HBC became, as Ted Binnema has shown, an important patron of science.<sup>48</sup> According to Binnema, the HBC was involved with learned societies in Canada as well as Britain and the United States, because scientific activity was used as a way to better its reputation. Support for science was a way to counter the many critiques that questioned the validity of the HBC's trading monopoly, as well as their treatment of the Indigenous populations. This was also the case with the KGH in Greenland. As with the HBC in the British North American Arctic, the KGH played an important role in supporting explorers and settlers in Greenland. In this thesis I take a broad approach to the identity of Arctic explorers, and include narratives from missionaries who settled in Greenland for extended periods of time. This draws on insights from scholars such as Graeme Wynn, who has shown how European settlers sought to make eastern Canada their own, and mapping it through exploration was a central concern of the domestication of the territories.<sup>49</sup> Similarly, Colin Coates has illustrated how British settlers in the North American colony attempted to shape the landscape by imposing their own cultural understandings in their appropriation of it.<sup>50</sup> As Coates shows with regards to the attitude of settlers in North America, “[b]y

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<sup>48</sup> Ted Binnema, *Enlightened Zeal: The Hudson's Bay Company and Scientific Networks, 1670-1870* (Buffalo, N.Y.: University of Toronto Press, 2014), 7.

<sup>49</sup> Graeme Wynn, *Canada and Arctic North America: An Environmental History*, Nature and Human Societies Series (Santa Barbara: ABC-CLIO, 2007).

<sup>50</sup> Coates, “Like ‘The Thames towards Putney’: The Appropriation of Landscape in Lower Canada,” 318.

imposing European perspectives, they made the lands accessible to future expansion.”<sup>51</sup>

Binnema, Wynn, Coates, and Levere all draw attention to the link between exploration, knowing, and settling the land in North America.<sup>52</sup> Furthermore, scholars such as Hill, David, and Cavell have shown how travel narratives reflected and contributed to concurrent imperial discourses.<sup>53</sup> Drawing on these insights, I show throughout this thesis that perceptions about the Arctic were shaped through encounters with Indigenous peoples and the environment. Such encounters took place in what Pratt has termed the ‘contact zone’, a space of colonial encounter. I make use of the concept of the contact zone throughout this thesis, both explicitly and implicitly, as a way to break down the binaries between the metropole and the periphery. The contact zone, Pratt argues, is “the space in which peoples geographically and historically separated come into contact with each other and establish on-going relations, usually involving conditions of coercion, radical inequality, and intractable conflict ... often within radically asymmetrical relations of power.”<sup>54</sup> Providing a similar focus on the colonial encounter, Stuart Schwartz has argued that an “implicit ethnography” existed within encounters in European

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<sup>51</sup> Ibid., 317.

<sup>52</sup> These observations extend to other areas of European imperial expansion as well. See for example, Richard H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860* (Cambridge: Cambridge University Press, 1995).

<sup>53</sup> Hill, *White Horizon*; David, *The Arctic in the British Imagination 1818-1914*; Cavell, *Tracing the Connected Narrative*.

<sup>54</sup> Pratt, *Imperial Eyes*, 7.

expansion.<sup>55</sup> The concept of implicit ethnography is similar to Pratt's contact zone, and I make use of both to conceptualize the encounters between Europeans and the Indigenous populations. It was ethnography, Schwartz argues, because understandings of the other are the product of observing, reporting, and reflecting, which in turn also shape understandings of the self. Reports of encounters therefore, tell us about the observer perhaps more so than the observed.<sup>56</sup>

Pratt and Schwartz both emphasise that there is not one singular colonial culture, discourse, or experience, but that these varied according to time, site and people involved. This is especially important when studying an area like the Arctic where explorations, colonialism, and scientific pursuits were characterized both by friendly collaboration between Europeans and Indigenous populations as well as extreme coercion and exploitation. Interactions between the Indigenous populations and European explorers were shaped by many factors. Concerns about historical, cultural and geographical difference in understandings of scientific practice and concepts have also been discussed within environmental history. The issue of cultural difference in the perception of the natural world is a key focus of Julie Cruikshank's book *Do Glaciers Listen* (2010).<sup>57</sup> Cruikshank shows that the perceptions of glaciers by European explorers and Indigenous peoples' oral traditions differed significantly. The latter framed glaciers as social spaces, where

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<sup>55</sup> Stuart B. Schwartz, ed., *Implicit Understandings: Observing, Reporting and Reflecting on the Encounters Between Europeans and Other Peoples in the Early Modern Era* (Cambridge University Press, 1994).

<sup>56</sup> *Ibid.*, 2.

<sup>57</sup> Julie Cruikshank, *Do Glaciers Listen?: Local Knowledge, Colonial Encounters, and Social Imagination* (Vancouver: UBC Press, 2010).

glaciers react to human actions and verbalizations. By contrast, Europeans approached glaciers as inanimate objects that could be measured empirically. Cruikshank's book exemplifies the importance of considering the agency of Indigenous peoples in a study of the Arctic.<sup>58</sup> Similarly, Paul Sutter has shown the problems associated with the construction of global conservation and wildlife or wilderness protection agendas, as the environmental traditions of Europeans and extra-Europeans collide.<sup>59</sup> Studies such as Schwartz', Sutter's, and Cruikshank's thus problematize the 'discoveries' of unknown land and peoples, as well as the way such encounters were reported. As Sutter and Cruikshank in particular show, the representation of the environment was inherently tied up with preconceived understandings that were culturally and temporally specific, and were a significant part of the imperial project.

Visual representations of the Arctic were an important part of the imperial project, and the travel narratives examined in this thesis typically included images of the landscape, the flora and fauna, natural phenomena such as the aurora borealis, and Indigenous peoples. Visual representations of the Arctic have been the

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<sup>58</sup> The process of cross-cultural encounters has been examined by several scholars. For example, Jerry Bentley has argued that cross cultural encounters were shaped by individual and social conversions through voluntary association, through social or economic pressure, or through assimilation, Jerry H. Bentley, *Old World Encounters: Cross-Cultural Contacts and Exchanges in Pre-Modern Times* (Oxford, New York: Oxford University Press, 1993).

<sup>59</sup> Paul S. Sutter, "When Environmental Traditions Collide: Ramachandra Guha's the Unquiet Woods and U.S. Environmental History," *Environmental History* 14, no. 3 (July 1, 2009): 543–50.

focus of recent scholarly literature.<sup>60</sup> Such studies show the significance of visual imagery in shaping conceptions of the Arctic as a space, and focus on both images in books and periodicals, as well as the large and popular Arctic panoramas that were on display throughout the nineteenth century.<sup>61</sup> Arctic explorers surveyed and mapped unknown regions, and visual imagery including maps played a key role in making the foreign tangible. I. S. MacLaren has argued that the aesthetics of the 'Sublime' and 'Picturesque' were as important as measurements of longitude and latitude in spatial identification in nineteenth-century Britain.<sup>62</sup> Like Levere, MacLaren emphasized the role of national and imperial identity in shaping representations of the Arctic. By discovering the 'Picturesque' abroad and drawing parallels between familiar scenes in Britain and the unknown, Arctic British travellers simultaneously affirmed Britain's imperial rights to the land and the travellers aesthetic identity as Englishmen.

While MacLaren has shown the significance of other visual representations than maps, J.B Harley has demonstrated the importance of taking into consideration the politics, culture and aesthetics of map-making when analysing accounts of

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<sup>60</sup> See for example Potter, *Arctic Spectacles*. Eavan O'Dochartaigh, "From Science to Sensation: A Study of Visual and Literary Representation in Arctic Exploration in the Mid-19th Century" (National University of Ireland, Galway, Unpublished PhD thesis, in progress).

<sup>61</sup> For more on Arctic panoramas, see Hill, *White Horizon*, 130–84; Russell A. Potter and Douglas W. Wamsley, "The Sublime yet Awful Grandeur: The Arctic Panoramas of Elisha Kent Kane," *Polar Record* 35, no. 194 (July 1999): 193–206; Ralph O'Connor, *The Earth on Show: Fossils and the Poetics of Popular Science, 1802-1856* (Chicago: University of Chicago Press, 2008), 269, 274. For more on science and photography, see Geoffrey Belknap, *From a Photograph: Authenticity, Science and the Periodical Press, 1870-1890* (London; New York: Bloomsbury Publishing, 2016).

<sup>62</sup> I. S. MacLaren, "The Aesthetic Map of the North, 1845-1859," *Arctic* 38, no. 2 (June 1, 1985): 89–103.

explorers.<sup>63</sup> Drawing on Foucault, Harley portrays maps as power-knowledge. Maps have the power to re-describe the world, and are affected both by the social world and ideology as well as the phenomena seen and measured in landscapes. Rather than considering maps as mirrors of nature, Harvey argues, the historian should discuss maps as text: never neutral or value free. Similarly, Ernst Hamm has argued that maps are never an unmediated representations of the world, as “[m]aps were needed to make the invisible visible, and to do so required many generalizations and hypotheses about the way the earth’s crust was structured.”<sup>64</sup> This is a significant point for Arctic exploration, as the credibility of the mapping depended on the perception of the explorer as an authoritative observer of Arctic phenomena. Another nuanced understanding of the way scientific observation worked in natural history is provided by Daniela Bleichmar, focusing on ‘visual epistemology’.<sup>65</sup> According to Bleichmar, ‘visual epistemology’ is similar to what Ian Hacking has called ‘styles of reasoning’, or “a way of knowing based on visibility, encompassing both observation and representation”.<sup>66</sup> Bleichmar argues that images show how knowing and making visible are intertwined as part of the imperial project. A visual

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<sup>63</sup> J. B. Harley, *The New Nature of Maps: Essays in the History of Cartography*, ed. Paul Laxton (Baltimore: Johns Hopkins University Press, 2001). For an examination of visual representations of the earth sciences see Martin J. S. Rudwick, “The Emergence of a Visual Language for Geological Science 1760—1840,” *History of Science* 14, no. 3 (September 1, 1976): 149–95. See also Elri Liebenberg, Peter Collier, and Zsolt Gyozo Torok, *History of Cartography: International Symposium of the ICA, 2012* (Springer Science & Business Media, 2013); A. H. Robinson and Helen M. Wallis, “Humboldt’s Map of Isothermal Lines: A Milestone in Thematic Cartography,” *The Cartographic Journal* 4, no. 2 (December 1, 1967): 119–23.

<sup>64</sup> Ernst Hamm, “Knowledge from Underground: Leibniz Mines the Enlightenment,” *Earth Sciences History* 16, no. 2 (1997): 87.

<sup>65</sup> Bleichmar, *Visible Empire*.

<sup>66</sup> *Ibid.*, 8.

epistemology forms part of part of what Jane Burbank and Frederick Cooper have termed the imperial 'repertoires of power' for establishing and legitimizing imperial authority.<sup>67</sup> When considered within their imperial context, travel narratives reveal significant and overarching geopolitical considerations. There are key similarities between the national contexts examined in this thesis, but also significant differences. An overarching theme is that imperial support for scientific practice in the Arctic was never straightforward. In particular, by examining multiple national contexts in this thesis I shed new light on the relationship between imperial ambitions and Arctic exploration.

### **Transnational and the global**

Michael Bravo and Sverker Sörlin have illustrated how limiting the study of scientific practices to one national context constricts our understanding of science in Arctic.<sup>68</sup> Bravo and Sörlin suggest a transnational approach similar to that defined in "AHR conversation: On Transnational History".<sup>69</sup> The contributors to the AHR conversation emphasize that transnational history is a conceptual tool that allows historians to think differently – most importantly, to think about and follow movements, flows and circulations of peoples, ideas, knowledge and objects.

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<sup>67</sup> Jane Burbank and Frederick Cooper, *Empires in World History: Power and the Politics of Difference* (Princeton, N.J: Princeton University Press, 2010).

<sup>68</sup> Michael Bravo and Sverker Sörlin, *Narrating the Arctic: A Cultural History of Nordic Scientific Practices* (Science History Publications, 2002).

<sup>69</sup> C. A. Bayly et al., "AHR Conversation: On Transnational History," *The American Historical Review* 111, no. 5 (December 1, 2006): 1441–64.



Compared with other types of history, transnational history multiplies the foci from 'state', to many types of actors moving across boundaries. An excellent example of such an approach in environmental history is by Tobias Krüger.<sup>70</sup> Krüger's study shows how national and cultural contexts affected the acceptance (and rejection) of the Ice Age theory. In doing so, Krüger emphasizes how shifting focus away from English-speaking contexts and paying equal attention to multiple national settings reveals new patterns of scientific inquiry.

There is a large body of recent literature on transnational history that addresses the methodological advantages and difficulties of undertaking transnational research.<sup>71</sup> Jerry Bentley and Patrick Manning argued in 'AHR Forum: The Problem of Interactions in World History' that scholarly literature has suffered under the assumption that it is possible to apply Western periodization to other cultures.<sup>72</sup> While Bentley and Manning were concerned primarily with periodization in the *longue durée*, the issue of periodization is important also for the nineteenth century and can be pushed even further. I examine multiple national contexts, but the scholarship on the British nineteenth-century periodical press is more

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<sup>70</sup> Tobias Krüger, *Discovering the Ice Ages: International Reception and Consequences for a Historical Understanding of Climate*, First english edition (BRILL, 2013).

<sup>71</sup> One of the most significant recent discussions on transnational history is Bayly et al., "AHR Conversation." For a detailed overview on the theories of globalization see Bruce Mazlish, "Comparing Global History to World History," *The Journal of Interdisciplinary History* 28, no. 3 (1998): 385–95; Jürgen Osterhammel and Dr Niels P. Petersson, *Globalization: A Short History*, trans. Dona Geyer (Princeton, Oxford: Princeton University Press, 2005).

<sup>72</sup> Patrick Manning and Jerry H. Bentley, "The Problem of Interactions in World History," *The American Historical Review* 101, no. 3 (1996): 771.

developed than the Danish or Canadian.<sup>73</sup> Because of this, I take as a starting point historiographical issues raised in the scholarship that have examined the nineteenth-century British periodical press and popularization of science in Britain. Methodologically, many lessons can be transferred from British-focused periodical studies. Casper Andersen and Hans Henrik Hjerimitslev have pointed out that scholars in the Danish context have primarily focused on specialized journals and overlooked the importance of non-specialist newspapers in mediating science between users and producers.<sup>74</sup>

Building on Lightman and Aileen Fyfe's concept of science in a commercial and cultural marketplace, Hjerimitslev and Andersen show how newspapers functioned as directors of attention, which made people aware of new scientific events such as lectures and scientific literature and new scientific developments. As Keighren, Withers, and Bell have argued, "[b]ooks *in* history, as 'containers' of history – of science, of empire, of exploration – have themselves become the objects *of* historical enquiry, neither objects of 'fixity' in a technical or an interpretive sense

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<sup>73</sup>For studies on the history of the Danish periodical press and book history, see for example Casper Andersen and Hans H. Hjerimitslev, "Directing Public Interest: Danish Newspaper Science 1900-1903," *Centaurus* 51, no. 2 (May 1, 2009): 143–67; Klaus Bruhn Jensen et al., *Dansk mediehistorie* (Samleren, 2001); Thomas F. Glick and Elinor Shaffer, eds., *The Literary and Cultural Reception of Charles Darwin in Europe* (London: Bloomsbury Academic, 2014); Dr Agustí Nieto-Galan, Dr Enrique Perdiguer, and Dr Faidra Papanelopoulou, *Popularizing Science and Technology in the European Periphery, 1800–2000* (Ashgate Publishing, Ltd., 2013). The key resource for Canadian periodical history is Patricia Fleming, Yvan Lamonde, and Giles Gallichan, eds., *History of the Book in Canada: Beginnings to 1840*, vol. 1 (Toronto, Buffalo, London: University of Toronto Press, 2004); Patricia Fleming, Yvan Lamonde, and Fiona Black, eds., *History of the Book in Canada: 1840-1918*, vol. 2 (Toronto, Buffalo, London: University of Toronto Press, 2005).

<sup>74</sup> Andersen and Hjerimitslev, "Directing Public Interest."

nor simply 'representative' of such things as exploration, travel, and science but vital means by which our knowledge about them exists at all."<sup>75</sup> According to Andersen and Hjerimitslev, the development of cheaper forms of science publications in Denmark was associated with specific ideas about science and the public: new ideas of 'enlightenment', and science knowledge as accessible to all people. In Denmark, the cheaper forms of popular science publications were launched in the last decades of the nineteenth century, as were science lectures. For the Canadian context, a key resource is the work of Suzanne Zeller on science and culture in nineteenth-century Canada.<sup>76</sup>

Hjerimitslev and Andersen's article points to another important difference between the British and Danish context: in Britain the cheaper forms of printed materials appeared in the first half of the nineteenth century; in Denmark they appeared in the last half of the century.<sup>77</sup> The differences in development of cheaper forms of printed materials and a general reading audience for science from each country shaped the publication and reception of travel narratives. Even within Western Europe, there is no meaningful unified periodization of developments in print culture and science. It underlines the point that it would be a mistake to apply British conceptions of a 'communications revolution' to other countries. For example, Bravo and Sörlin observe that there was a difference in the northern narratives in Denmark and Sweden, as "[t]he Danish approach was more spiritual,

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<sup>75</sup> Keighren, Withers, and Bell, *Travels Into Print*, 10.

<sup>76</sup> Suzanne Elizabeth Zeller, *Land of Promise, Promised Land: The Culture of Victorian Science in Canada* (Ottawa: Canadian Historical Association, 1996).

<sup>77</sup> Andersen and Hjerimitslev, "Directing Public Interest."

and spearheaded by missionaries, whereas in Sweden taxation, science, and even forced labour were the instruments. The northern narrative of Sweden, as a result of this, became much more concerned with resources and wealth, which was yet another similarity with the British imperial project.”<sup>78</sup> Bravo and Sörlin further argue that because of the difference in emphasis between Denmark and Sweden (and Britain, which they argue was similar to Sweden), there was also a difference in the perception of the Indigenous populations. They propose that the Danish perception of Indigenous Greenlanders was more positive than in Sweden, and shaped by a paternalistic concern in combination with perceptions of guilt over the treatment of the Indigenous peoples.<sup>79</sup> Missionaries played a key role in the Danish imperial expansion in Greenland. However, as I show in the following chapter so did concerns about resources and wealth. Often, missionary and financial interests intersected or clashed.

In this thesis, I take an approach to studies of the nineteenth-century Arctic that can be described as fitting between those that focus more exclusively on the scientific results from Arctic expeditions, such as Levere, and those that put the emphasis on the textual and visual representations of the Arctic, such as MacLaren, Cavell, and Hill. I examine the narratives from the expeditions, and, depending on the narrative in question, discuss the publication and reception of the narrative in both general and specialized periodicals, as it relate to the construction and practice of science in the Arctic. As such, the structure of this thesis is less formalized than

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<sup>78</sup> Bravo and Sörlin, *Narrating the Arctic*, 19.

<sup>79</sup> *Ibid.*

Levere's, which is organized in sections under headlines relating to each scientific field. I also do not adopt a strict book history or periodical studies approach such as that of Topham, and I am concerned less with circulation numbers than with the form and function of science in the narrative. Rather than writing an exhaustive study of the reception of all Arctic narratives, I focus on key Arctic explorations and narratives, and selected reviews or other articles about the narratives as a way to elucidate the question of how science in the Arctic was shaped throughout the century in Denmark, Canada, and Britain. This thesis also differs from both Levere and Cavell's study in that I compare multiple national contexts. While Levere includes perspectives from other national contexts, his focus is primarily on the Canadian context, whereas Cavell's focus primarily is on Britain with perspectives on the Canadian context. Taken together, I consider in this thesis questions about what constituted scientific practice; who were considered scientific practitioners, how this vast area that we today understand as the North American and Greenlandic Arctic was considered; and the way these understandings and definitions changed in time and place.

## **Four Chapters**

The four overarching themes of this thesis – firstly the role of travel narratives in shaping knowledge about the Arctic, secondly the identity of the explorer, thirdly the intersection of imperialism and science, and finally the transnational perspective emerge in many ways throughout the four chapters. Each chapter has three case

studies that are roughly organized according to chronology. This division allows for tracing similarities and differences in scientific practices, attitudes towards exploration and colonial expansion, and the ways scientific knowledge was communicated in multiple national contexts. The period between 1818 and 1883 was shaped by several key transitions in Arctic explorations. The disappearance of Franklin's expedition was a transformative event, but it was not the only one, and not necessarily the most significant one either. For this reason, I do not conclude this study with the last official British expeditions in search of Franklin. Rather, I draw out four major transitions, one for each chapter. The theme of chapter one is 'beginnings', but it could also have been 'uncertainty'. The radical uncertainty of the early expeditions extended to the Arctic explorer, as narrative strategies for establishing scientific and cultural authority through the travel accounts were negotiated. The theme of chapter two is 'economics', where I draw out the interconnectedness of commercial goods, ideas, experiences, and people, and examine the way the tensions over financial gain and explorations impacted the nature of Arctic explorations and perceptions of the Arctic explorer. 'Opportunism' is the theme of chapter three. With the disappearance of John Franklin's expedition, the number of Arctic expeditions multiplied. The many search missions were followed by an Arctic exploration-fatigue in Britain, while other nations began to stamp their authority in the Arctic. The theme of chapter four is therefore 'globalization', as I show how the transformations in imperial authority and attempts at international collaboration with the First IPY challenged old perceptions of the Arctic explorer and scientific practice in the Arctic.

In chapter one, I examine three early Arctic expeditions following the Napoleonic Wars. I begin by considering the political context and the motivating factors behind the organization of the expeditions funded by governmental bodies and trading companies. I show that the early expeditions were shaped by radical uncertainty of what to expect in the Arctic, and how this in turn influenced scientific practice. The importance of the narrative format and the character of the explorer are of particular focus of my examination of John Ross's expedition in search of the North West Passage in 1818. In the case study of John Franklin's two expeditions in search of the North West Passage between 1819-1822 and 1825-1827, and William August Graah's expedition to the East coast of Greenland in 1828-1829, I demonstrate the role of the trading companies and Indigenous peoples in organizing and assisting with Arctic explorations. Taken together, the three expeditions show the disunity of Arctic science in the early part of the nineteenth century, and the discord between the desires of figures in the metropole, and the reality of explorations in the icy north.

Whereas chapter one focused on expeditions that were organized by governmental bodies with the assistance of trading companies, chapter two looks at four expeditions that were funded and organized fully outside the realm of the governments in the 1830s. Following the failure of John Ross' first expedition, he attempted to redeem himself – assisted by a private patron – with an expedition between 1829-1833. Ross still mirrored the ambitions of the expeditions organized by the British Admiralty, in contrast with the expedition organized by the HBC under the command of Peter Warren Dease and Thomas Simpson in 1836-1839. I

also consider the experiences of two Danish missionaries in Greenland; Johan Christian Wilhelm Funch who resided in Greenland between 1830 and 1837, and an anonymous missionary wife who spent an unknown amount of time in Greenland around 1837. I show how private, financial, and religious interests shaped the scientific practices of explorers, and the function of science in attempts to establish cultural authority.

Chapter three begins with the disappearance of Franklin's last expedition, which left England in 1845. I show that while finding the lost Franklin expedition was the official goal of the many search missions, and that this aim generated more opportunities for Arctic explorations, it was not always the primary motivator behind them. I examine three search missions, starting with the 1848-1849 expedition organized by the British Admiralty and led by John Richardson with John Rae as second-in-command. I compare this expedition with the reception of John Rae's 1854 report to the Admiralty that he had discovered the fate of the Franklin expedition. This illustrates how perceptions of the Arctic explorer were linked with the self-portrayal in narratives, the style of exploration, and the scientific pursuits undertaken while away. My examination of Carl Petersen's participation on the 1857 expedition under the command of Francis Leopold McClintock further demonstrates the stark national differences in the reaction and response to Franklin's expedition between Denmark and Britain.

Finally in chapter four, I examine the period leading up to the First IPY (1882-1883), which was characterized by a transition in imperial power in the Arctic. With a starting point in a discussion about the tensions between nation



building and increased globalization, I examine the Indigenous Greenlandic explorer Hans Hendrik's participation in the George Nares expedition in 1875-76, a series of Danish explorations to the western coast of Greenland, and the Canadian-British participation during the IPY. This highlights how geopolitical shifts in the Arctic impacted the perceptions of the Arctic explorer, and the Arctic as a field-site. Hans Hendrik's participation on the George Nares expedition reveals 'the other' side of the encounter between Europeans and Indigenous Greenlanders. I further examine how paternalistic concerns for advancing the living conditions of the Indigenous peoples, in conjunction with financial ambitions to extract natural resources from Greenland, influenced the publication of Hans Hendrik's narrative and expeditions such as that of Knud Johannes Vogelius Steenstrup and Jens Arnold Diderich Jensen in the mid 1870s. The Canadian-British participation during the IPY was reluctant, and this was related both to the international character of the IPY, the efforts to standardize science in the Arctic, and the associated changes in the character of the Arctic field-site and the Arctic explorer-fieldworker.

By approaching surveying in its broadest sense, as the ordering and quantifying of nature through travel as a way to conceptualize the scientific practices of the Arctic explorers, the chapters in this thesis show how abstract notions about the Arctic became tangible in the nineteenth century. I approach travel narratives as scientific documents, irrespectively of the incorporation of their results by the scientific community in the metropole. I show that it was not possible for the metropole to control or predict the results from the Arctic expeditions, because the Arctic field-site was inherently uncertain, and the level of commitment

to scientific pursuits depended on the interests and abilities of the explorer-fieldworkers, as well as the support of the organizing bodies and Indigenous peoples. What emerges is a new and interdisciplinary look at how science was produced in the Arctic, how this information was perceived by both a specialist and general reading audience, and how this process differed depending on national and cultural context at different points between the end of the Napoleonic Wars and the First IPY.

# Chapter 1

## New beginnings in the Arctic

### Introduction

The expeditions which have recently been engaged in for discovering a North-west passage, though unsuccessful in their main object, are generally, and very properly, considered undertakings of great utility. Conducted as such expeditions now are, they cannot fail of procuring many valuable additions to the arts and sciences; whilst the spirit of enterprise kept alive by them, both in officers and seamen, renders them an appropriate service in time of peace, for the employment of a small portion of that navy, which during the war established our right to the uninterrupted navigation of all “the mighty waters.”<sup>80</sup>

- Thomas Merton (pseud), *Literary Magnet*, January 1824

Following the end of the Revolutionary and Napoleonic Wars that took place between 1792 and 1815, there was a significant renewed interest in the Arctic. The possibility of discovering a trading route to the Pacific was a major incentive, but, as

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<sup>80</sup> Thomas Merton (pseud), “Arctic Natural History.,” *Literary Magnet of the Belles Lettres, Science, and the Fine Arts, 1824-1826* 1, no. 1 (January 1824): 51.

this chapter shows, it was not the only motivator. While geographical discovery was the official primary object, scientific discoveries were, especially when faced with a lack of geographical results as noted in the *Literary Magnet*, central to the expeditions and their representation in the narratives. The nature of the scientific results depended largely on the abilities and interests of the crew, as well as the luck of the expeditions, the environment, and the people they met. It was in other words, not possible for the metropole to determine the results of the expeditions. As this chapter shows, the scientific practices and outcomes in the Arctic were shaped by the inherent uncertainty of Arctic explorations in this period. There was no unified practice of science in the Arctic, and both the variability and perception of the results were shaped by the stylistic choices in the narratives, including the construction of the persona of the Arctic explorer.

There was a marked difference in the levels of the Danish and British imperial funds following the wars. The available financial resources shaped the organization of Arctic explorations, both in terms of the voyage structure and with regards to how many expeditions it was possible to send out. Section one examines the context for the first Arctic explorations organized by the British and Danish navies, and the trading companies the KGH and the HBC. Drawing upon recent works on the global nature and popularization of science, section one further problematizes the metropole-periphery models such as that of Roy Macleod, which

assert that science in the periphery was controlled from the metropole.<sup>81</sup> The vagueness of the official instructions to the expeditions is a clear indication of the difficulties faced when constructing the Arctic. Section two examines the first British Arctic expeditions, the twin 1818 voyages in search of the North West Passage and the North Pole led by John Ross (1777-1856) and David Buchan (1780-1838). In particular it shows the strategies employed by Ross in navigating the expectations of the voyage, and the quick downfall of Ross' career and public persona. Ross' published narrative led to a very public controversy between Ross and one of the crewmembers, the explorer and physicist Edward Sabine (1788-1883) over the intellectual property of the experiments made during the voyage.

While there was great interest in the Northwest Passage and the North Pole in Britain, Greenland was the focus of the Danish imperial expansion. Section three examines the expedition led by the Danish explorer William August Graah (1793-1863) to the East coast of Greenland. Graah's mission was also geographical, but he was searching for something very different than a trading route. Aside from surveying, a powerful strategy for asserting imperial dominance was establishing a historical link to a region. Graah was therefore to ascertain the fate of the so-called 'lost Nordic tribe'. Graah's narrative was beautifully illustrated, and section three further addresses the significance of the format used to showcase the knowledge produced during the venture. Leading on from this, section four examines John Franklin's first two expeditions in search of the Northwest Passage with a focus on

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<sup>81</sup> Roy M. MacLeod, "On Visiting the 'Moving Metropolis': Reflections on the Architecture of Imperial Science," *Historical Records of Australian Science* 5, no. 3 (1982): 1-16.

the first, the so-called Coppermine expedition. In contrast with Ross' voyage, both Graah's and Franklin's expeditions relied heavily on the assistance of the trading companies the KGH and the HBC. As section four further shows, the trajectories of Franklin's first and second voyages were shaped by the difference in the support they secured from the HBC and the Indigenous communities.

Sections three and four both explore the role of the trading companies, and how the reliance on assistance from Indigenous peoples shaped the nature of the overland expeditions, and the science they produced. This shows the influence of national and personal differences in shaping the nature of the Arctic expeditions, the types of scientific knowledge produced in the Arctic regions, and the perceptions of the Arctic space and its inhabitants. Taken together this chapter argues that the nature of scientific practices in the Arctic in the early years following the Napoleonic Wars both created and was shaped by the uncertainty associated with Arctic expeditions, the unstable nature of intellectual and cultural authority, choices of narrative styles in the travel literature, encounters with the Indigenous populations, and the persona of the Arctic explorer. While figures such as the second secretary of the Admiralty John Barrow (1764-1848) played a key role in determining the make-up of the voyages and the career trajectory of the explorers, there were limitations to this control from the metropole.

## **1. Arctic science takes form**

The first expeditions organized by the British government were important in showing what could be accomplished scientifically with Arctic explorations. The results were wide-ranging and largely dependent on the abilities of the crew. As such, there was not always a match between what it was hoped the expeditions would achieve scientifically, and what they actually produced. The official orders of the expeditions reveal the types of sciences that the sponsoring parties such as the British Navy and the Danish Crown valued, and included experiments on magnetism, the aurora borealis and the figure of the earth, refraction, ocean currents, mineralogy, zoology, botany, hydrography, ethnology, and the general collection of natural history specimens. There was, in other words, no specific set of guidelines for what could and should be accomplished scientifically in the Arctic. Rather, the framework was Humboldtian in its ethos, as the official instructions encouraged the collection and cataloguing of everything. This section examines the context for the first Arctic explorations in the period following the Napoleonic Wars. As this section shows, the early Arctic explorations were shaped by imperial ambitions and uncertainty. Drawing upon historiography on the relationship between the metropole and the periphery, this section further examines the discord between the desires of the metropole and the reality of life in the Arctic periphery, which in turn challenges the metropole-periphery divide. The metropole, in fact, could not determine the results of the Arctic explorations.

When Napoleon I of France in 1806 launched the Continental System (Blocus continental) as a way to isolate Britain from the rest of Europe in response to the British naval blockade of the French coasts of 16 May 1806, Britain's first response was an attack on Denmark. Although Denmark-Norway had attempted to stay neutral, there was significant pressure from Napoleon to pledge the Danish Navy for their use against Britain. Britain initiated an attack on Denmark in July 1807 with the purpose of claiming control over the Danish fleet. The British Navy bombarded Copenhagen between the 2<sup>nd</sup> and 5<sup>th</sup> of September, during which over a thousand buildings burned. Denmark surrendered on 7 September, and Britain took charge of its navy. In 1813, Denmark went bankrupt, and in 1814 was forced in the Treaty of Kiel to pass governorship of Norway to the Swedish crown and give up Helgoland to Britain.<sup>82</sup> Norway disputed this and declared their own sovereignty at a national assembly at Eidsvoll on 17 May 1814. After the wars, the Danish crown had no funds or resources for expensive exploration ventures.<sup>83</sup> But the Treaty of Kiel formally gave Denmark ownership of three former Norwegian or Danish-Norwegian areas: the Faroe islands, Iceland and Greenland – something the now sovereign Norway unsuccessfully contested for years. In Britain the end of the Napoleonic Wars generated new opportunities for employing naval officers in Arctic expeditions. After the war, the navy and army had a large amount of unemployed or

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<sup>82</sup> Raymond E. Lindgren, *Norway-Sweden: Union, Disunion, and Scandinavian Integration* (Princeton: Princeton University Press, 1959), 8–10; Rasmus Glenthøj and Morten Nordhagen Ottosen, *Experiences of War and Nationality in Denmark and Norway, 1807–1815* (London: Palgrave Macmillan UK, 2014), 257–78.

<sup>83</sup> Shelagh D. Grant, *Polar Imperative: A History of Arctic Sovereignty in North America* (Vancouver: Douglas & McIntyre, 2010), 97–98.



underemployed naval officers and seamen.<sup>84</sup> Because of that, there were plenty of officers looking for positions, and the search for a faster route to the Pacific regained focus. Around the same time, the Americans declared war on Britain, its North American colonies, and Indigenous allies (1812-1815). In Upper and Lower Canada, the war ended to the benefit of Canada, a victory that later became part of the creation of a distinct Canadian identity – as part of the British Empire.<sup>85</sup>

During the wars, naval science and Arctic explorations were put on hold. In the British context, peacetime brought with it unemployment of large numbers of seamen. In 1812, 113,000 seamen had been funded by the British Parliament, but this fell to 24,000 in 1816. Up to 90% of officers were unemployed by 1817.<sup>86</sup> The expansion of the Ordnance Survey provided a key opportunity for employment for these un- and underemployed men.<sup>87</sup> Arctic expeditions combined the use of the skills of officers trained in scientific surveying with geopolitical ambitions of finding a faster route to the Pacific and establishing authority in the region. The influence of whaling captain William Scoresby (1789-1857) who informed the influential British naturalist Joseph Banks (1743-1820) that there had been less polar ice than usual in 1817, was significant in the decision to fund expeditions in search for the North

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<sup>84</sup> Michael S. Reidy, *Tides of History: Ocean Science and Her Majesty's Navy* (Chicago: University of Chicago Press, 2009), 169.

<sup>85</sup> The extent to which the war of 1812 created a new Canadian identity has been debated in the literature. For example, George Sheppard has argued that the war did not immediately create a unified identity as 'Canadians', as for most settlers other issues such as securing food supplies was more pressing: George Sheppard, *Plunder, Profit, and Paroles: A Social History of the War of 1812 in Upper Canada* (Montreal: McGill-Queen's Press, 1994).

<sup>86</sup> Levere, *Science and the Canadian Arctic*. 37

<sup>87</sup> *Ibid.* 37

West Passage.<sup>88</sup> Scoresby, who led a voyage in 1822 on the eastern coast of Greenland, recommended in a letter to Banks that the Government should sponsor an expedition – although he warned that the amount of ice might not stay stable for the following season. Based on Scoresby’s information, Banks in turn counselled Robert Dundas (1771-1851), also known as Lord Melville, the First Lord of the Admiralty, on the possibility and opportunities for discovering a North West Passage, and Barrow similarly saw the possibilities the decrease in polar ice could offer.<sup>89</sup>

Barrow had several motives for supporting Arctic explorations. The economic possibilities from a potentially faster and safer trading route were obvious, but as Robert David and Trevor Levere both have emphasized, national pride also should not be underestimated.<sup>90</sup> The advance of science and the national glory associated with such scientific progress factored heavily in Barrow’s thinking. Even if the North West Passage was not discovered, the scientific discoveries made during the expeditions could be utilized to advance the knowledge of the British climate, amongst other reasons to improve agricultural practices.<sup>91</sup> As James Fleming and Vladimir Jankovic have shown, the definition of climate as associated

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<sup>88</sup> Ibid., 40–41; William Scoresby, *The Arctic Whaling Journals of William Scoresby the Younger: The Voyages of 1817, 1818 and 1820*, ed. C. Ian Jackson, vol. 3 (Routledge, 2009), xxix.

<sup>89</sup> Annette Watson, “William Scoresby,” in *Encyclopedia of the Arctic*, ed. Mark Nuttall (New York: Routledge, 2012), 1850; Levere, *Science and the Canadian Arctic*, 41; Peter Fjagesund, *The Dream of the North: A Cultural History to 1920* (Amsterdam, New York: Rodopi, 2014), 257.

<sup>90</sup> David, *The Arctic in the British Imagination 1818-1914*, xvi; Levere, *Science and the Canadian Arctic*, 41–44.

<sup>91</sup> David, *The Arctic in the British Imagination 1818-1914*, xvi; Levere, *Science and the Canadian Arctic*, 41–44.

primarily with the atmospheric sciences is relatively new, whereas climate used to be related to a much broader set of issues including health, geography, economy, and racial concerns.<sup>92</sup> As has been shown by researchers such as Nancy Stepan, Richard Grove, and Deborah Neill with regards to British colonialism in the tropics, observations and experiences made in the foreign environment specifically led to new evaluations of nature generally.<sup>93</sup>

Grove has argued that the tropical island became an allegory for the whole world, and observations made on islands were transferred with the intent of applying to the global stage.<sup>94</sup> Similarly, Katherine Anderson has noted that to British imperialists, India was perceived as a “natural laboratory for meteorology” because it “seemed to hold the key to unravelling the laws of the atmosphere.”<sup>95</sup> In the same way, the Arctic was a laboratory. The Arctic was a particularly intriguing site, as the explorer-fieldworker in this natural laboratory for example would encounter extreme weather, and rugged and curious fauna and flora. Locating the trading route to the Pacific was a key concern, but for Barrow and his contemporaries Arctic explorations were also an opportunity to catalogue the resources available for financial gain, contribute to many scientific fields, and establish imperial dominance in the region. It was hoped that research in the Arctic

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<sup>92</sup> James Fleming and Vladimir Jankovic, “Revisiting Klima,” *Osiris* 26, no. 1 (2011): 1–2.

<sup>93</sup> Grove, *Green Imperialism*; Deborah Neill, *Networks in Tropical Medicine: Internationalism, Colonialism, and the Rise of a Medical Specialty, 1890–1930* (Stanford: Stanford University Press, 2012); Nancy Leys Stepan, *Picturing Tropical Nature* (Ithaca, New York: Cornell University Press, 2001).

<sup>94</sup> Grove, *Green Imperialism*, 9.

<sup>95</sup> Katharine Anderson, *Predicting the Weather: Victorians and the Science of Meteorology* (Chicago: University of Chicago Press, 2005), 260.

could elucidate the resources available in the region, as well as adding to understandings of the climate. This was a Humboldtian idea, as Humboldt had described climate as a broad category, indicating all changes in the atmosphere that affected humans, animals and plants.<sup>96</sup> As such, the many diverse sciences practiced during the Arctic expeditions were connected by an ethos of discovery and scientific progress, and a desire to conceptualize the climate – both in the Arctic and back home.

Barrow was a central figure in deciding which officers were part of the Arctic expeditions, and his biographer Christopher Lloyd has described him as a figure who always appeared in the background directing the course of naval policy.<sup>97</sup> He also determined which scientific instruments the Admiralty would purchase for the expeditions. For example, Ross requested an additional timekeeper to bring on board the *Isabella*, which Barrow denied.<sup>98</sup> In the end, Ross purchased the timekeeper himself. Barrow also influenced how some of the literature on the Arctic was represented in print. As Charles Withers, Innes Keighren, and Bill Bell have shown, Barrow read the travel narratives published by the publishing house John Murray which, as an official publisher for the Admiralty, published a large part of travel narratives from the expeditions to the Arctic (and Africa) in the first half of

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<sup>96</sup> Fleming and Jankovic, "Revisiting Klima," 4–6; Kirsten Hastrup, "Anticipating Nature: The Productive Uncertainty of Climate Models," in *The Social Life of Climate Change Models: Anticipating Nature*, ed. Kirsten Hastrup and Martin Skrydstrup (New York, London: Routledge, 2012), 14.

<sup>97</sup> Christopher Lloyd, *Mr. Barrow of the Admiralty: A Life of Sir John Barrow* (London: Irvington Publishers, 1970).

<sup>98</sup> Scott polar - MS 999/7/1-6 sir Ross letters to various  
Letter Ross to J W [Groken] 1818

the nineteenth century.<sup>99</sup> Furthermore, Barrow functioned both as a pre-print reader and post-publication reviewer for Murray. In this way, Barrow influenced both the physical makeup of the expeditions, their orders and instructions, and the portrayal of the expeditions and the Arctic upon the conclusion of the expedition.

Barrow exercised on many levels a significant amount of control and influence on the direction of British Arctic science and the nature of Arctic expeditions in the first half of the nineteenth century.<sup>100</sup> Likewise, expeditions in the British North American Arctic were heavily shaped by the preferences of another key person: George Simpson (1786/1787-1860). In 1821 the HBC and the North West Company (NWC) merged. The merger, which would be due for renewal after 21 years, ended a long-standing competition between the two companies. With the merger, the HBC gained a monopoly over the fur trade business in British North America, except for the St Lawrence and the lower Great Lakes.<sup>101</sup> At the time of the merger, the HBC had been deep in debt to the Bank of England. The new monopoly was unprecedented and offered an exceptional opportunity to create large profits on the fur trade. The person chosen as the governor-in-chief for the new HBC was

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<sup>99</sup> Charles W J Withers and Innes M Keighren, "Travels into Print: Authoring, Editing and Narratives of Travel and Exploration, c.1815—c.1857," *Transactions of the Institute of British Geographers*, New Series, 36, no. 4 (October 1, 2011): 6, 45.

<sup>100</sup> For a detailed account of Barrow's life and work see Fergus Fleming, *Barrow's Boys* (New York: Atlantic Monthly Press, 2000).

<sup>101</sup> Several major works on the HBC has been written, in particular see: Binnema, *Enlightened Zeal*; Edwin Ernest Rich, *Hudson's Bay Company 1670-1870*, vol. 1, 1821–1870, 3 vols. (New York: Macmillan, 1961). The most thorough works on the HBC and the mapping of Canada are Richard I. Ruggles, *A Country So Interesting: The Hudson's Bay Company and Two Centuries of Mapping, 1670-1870* (Montreal: McGill-Queen's Press, 1991); Don W. Thomson, *Men and Meridians: The History of Surveying and Mapping in Canada*, vol. 3, 3, 1966-69 vols. (Ottawa: R. Duhamel, Queen's printer, 1969).

George Simpson. Simpson was the key person to shape the trajectory of the HBC. As Trevor Levere has written, “Simpson wanted power for and through the company, and that included social and cultural standing.”<sup>102</sup> To Simpson, scientific activity was a way through which this could be achieved. Ted Binnema has further noted that the search for the Northwest Passage was used by the HBC as a way to gain the desired power and respectability.<sup>103</sup>

In contrast, the Danish Crown and the KGH had difficulties organizing expeditions for any purpose, be it geographical or scientific. But the acute lack of funds also spurred interest in undertaking expeditions to Greenland. For the Danish Crown and the KGH, as with the HBC, the links between knowledge about the Arctic and economic and imperial concerns are evident. The HBC struggled with a large debt and a new organizational structure after the merger. Similarly, as Denmark had suffered a great economic and geographical loss following the Napoleonic Wars, the prospect of extracting resources and creating new and useful knowledge in the Arctic made science a high priority alongside the trade of natural resources. For Denmark, discovering traces of the lost Nordic tribe was a key concern in the beginning of the nineteenth century.<sup>104</sup> Proof of their (continued) existence would

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<sup>102</sup> Levere, *Science and the Canadian Arctic*. 191

<sup>103</sup> Binnema, *Enlightened Zeal*. 130

<sup>104</sup> See for example Marianne Rostgaard and Lotte Schou, *Kulturmøder i dansk kolonihistorie* (Gyldendal Uddannelse, 2010), 21; Spencer Apollonio, *Lands That Hold One Spellbound: A Story of East Greenland* (Calgary: University of Calgary Press, 2008), 7–12; Peter A. Toft and Inge Høst Seiding, “Circumventing Colonial Policies: Consumption and Family Life as Social Practices in the Early Nineteenth-Century Disko Bay,” in *Scandinavian Colonialism and the Rise of Modernity: Small Time Agents in a Global Arena*, ed. Magdalena Naum and Jonas M. Nordin (New York: Springer Science & Business Media, 2013), 107.

support the Danish claim to the area, something the newly sovereign Norway contested. The surveys of Greenland were linked with Danish nation building in other ways. Cataloguing the Empire, knowing the land and the people, meant collecting natural history specimens. The Danish Crown requested that as many specimens as possible be sent to the Botanical Garden (*Botanisk Have*) and the Royal Museum (*Kongelige Museum*) in Copenhagen and for use in *Flora Danica*.<sup>105</sup>

As the KGH worked with the Danish Crown, the HBC collaborated with the British Navy to survey the North American Arctic in overland expeditions. The HBC and the KGH undertook primarily overland expeditions, while the ones organized by the British Navy were both overland and sea-faring. This was a key difference in the mode of exploration and, as the following chapters shows, shaped everything relating to the ventures. British North America north of Davis Strait and Baffin Bay, the areas of interest in the search for a Northwest Passage, were outside the authority of the HBC.<sup>106</sup> In these expeditions, the HBC and the Royal Navy explorers had to rely on the assistance of fur traders and the Indigenous peoples. Similarly, the overland and littoral expeditions backed by the Danish Crown and the KGH extended into areas outside of their direct authority. The success of the expeditions fundamentally relied on help from Indigenous peoples, including support with food, shelter and other necessary resources, as well as their assistance as guides, translators, and rowers. European knowledge was transformed both conceptually

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<sup>105</sup> The best work on *Flora Danica* is Henning Knudsen, *Fortællingen om Flora Danica* (Statens Naturhistoriske Museum: Lindhardt og Ringhof, 2014).

<sup>106</sup> Detailed histories of the HBC include: Elle Andra-Warner, *Hudson's Bay Company Adventures: Tales of Canada's Fur Traders*, 2nd ed. (Victoria, Vancouver, Calgary: Heritage House Publishing Co, 2003); Binnema, *Enlightened Zeal*.

and empirically by Indigenous learning, and the influence of the Indigenous peoples on the direction of Arctic explorations and Arctic science cannot be overestimated. It changed how Europeans came to think about themselves and their discoveries. Relations between the Indigenous groups, trading companies, and the Arctic explorers affected the trajectory of the expeditions. Because of all these factors, the expeditions did not always achieve what figures like Barrow had hoped. This was evident from the very first British expeditions to the Arctic.

## **2. A Voyage of Discovery: the first British Arctic explorations**

Following the return of his expedition to the Arctic in 1818, Ross claimed that there was no opening through Lancaster's Sound in Baffin Bay that could serve as an entrance point to the North West Passage. The coastal line of the bay, Ross argued, was framed by a mountain range he named 'Croker Mountains'. Unfortunately for Ross, the Croker Mountains was a mirage and his claims were met with strong criticism. With a starting point in Ross' narrative *A Voyage of Discovery, Made under the Orders of the Admiralty, in His Majesty's Ships Isabella and Alexander, for the Purpose of Exploring Baffin's Bay, and Inquiring into the Probability of a North-West Passage* (1819), this section explores how the construction of Ross' narrative affected the perception of the Arctic and the authoritative Arctic explorer. As the first voyages to the Arctic after the Napoleonic Wars, Ross' and Buchan's expeditions were central in establishing British dominance in the Arctic region and in showing what could be accomplished with future ventures to the Arctic. By examining the



controversy between Ross and Sabine over the Croker Mountains, this section shows the critical role of the changing nature of the British periodical press in the development of who constituted a trustworthy observer of the Arctic. The techniques for establishing an authoritative voice shaped the tone of the narratives, which in turn affected the description of the Arctic, the science carried out in the Arctic, and the nature of the Arctic explorer.<sup>107</sup>

Originally, the intention was to publish an official account, sanctioned by the head of the British Navy, of Ross' and Buchan's voyages. In both cases, this was decided against, in part because the expeditions were not even close to fulfilling their geographical goals. Ross published his, unofficial, account of the expedition in 1819. Conversely, because of what he perceived as a lack of results, Buchan did not publish an account of his attempt to reach the North Pole, and a full narrative of the voyage was not made until Frederick William Beechey (1796-1856), a lieutenant on the expedition, published *A Voyage of Discovery Towards the North Pole: Performed in His Majesty's Ships Dorothea and Trent, Under the Command of Captain David Buchan, R.N.; 1818; to which is Added, a Summary of All the Early Attempts to Reach the Pacific by Way of the Pole* (R. Bentley) in 1843. No transpolar passage – through the North Pole north of Spitsbergen to the Pacific Ocean – was discovered, and the expedition suffered injuries to both boats. Neither the expeditions led by Buchan or Ross were particularly successful, if success was to be judged from its fulfilment of

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<sup>107</sup> Ross received instructions from the Admiralty, Sir George Hope, in a letter dated December 4, on the 11<sup>th</sup> of December 1817 and arrived in London on December 30.

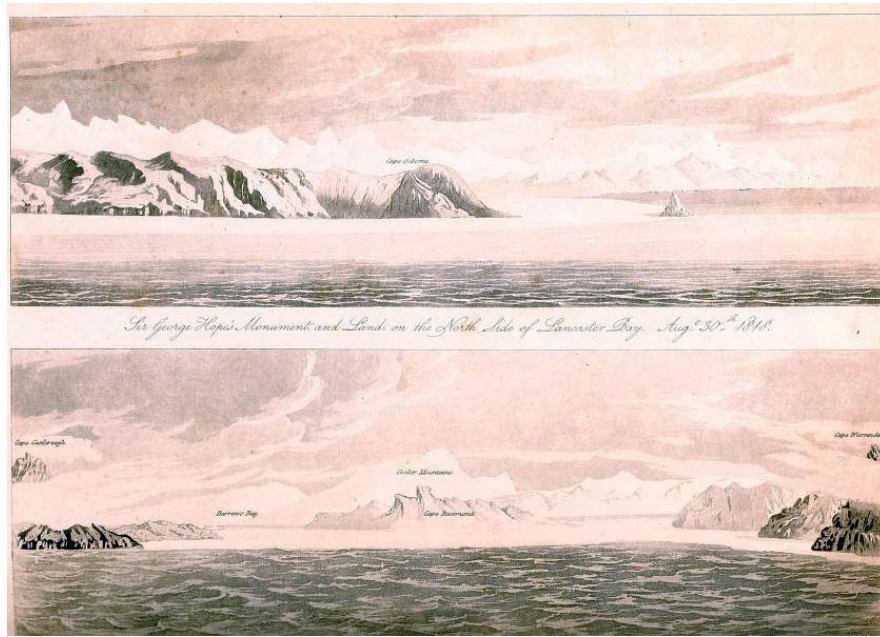


Figure 2. Illustration of the 'Croker Mountains'. Ross, A Voyage of Discovery, 1819, 174-75



Figure 3. Route taken by the expedition, Ross, A Voyage of Discovery, 1818, 174-75

the goal of finding a North-West passage. Ross' official instructions from the Admiralty illustrate the uncertainty of Arctic exploration missions in this period. The Admiralty stated that they were unable to give him detailed instructions as to the route and time frame for the voyage because the land in the region was unknown. Because of that they relied on Ross' skill and zeal for the safe fulfilment of the object of the voyage.<sup>108</sup> While the primary goal of Ross' missions was geographical, the secondary purpose was scientific. The ships carried many scientific instruments, the value of which shows the importance placed on the scientific aspects of the voyages.

The key scientific areas of interest as outlined in their official instructions were similar for Ross and Buchan's voyages. They were to examine the variation and inclination of the magnetic needle, the intensity and variation of the magnetic force, the temperature of the air and of the surface of the sea, observing the dip of the horizon compared over fields of ice and open horizon, refraction of objects over ice, the character of the tides and currents, the depth and soundings of the sea, and examination of the sea bottom.<sup>109</sup> In addition to observations linked to meteorology, they were also to collect and preserve animal, mineral and vegetable specimens, and make drawings and descriptions of those they could not preserve and store on board the ships.<sup>110</sup> The vagueness of this particular part of the official instructions

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<sup>108</sup> John Ross, *A Voyage of Discovery, Made under the Orders of the Admiralty, in His Majesty's Ships Isabella and Alexander, for the Purpose of Exploring Baffin's Bay, and Inquiring into the Probability of a North-West Passage* (London: John Murray, 1819). 2-3

<sup>109</sup> *Ibid.* 10-11

<sup>110</sup> *Ibid.* 11-12

also shows the unknown of the Arctic. It was impossible to know what could be expected, and what for example could be discovered when the North Pole was ascertained. The hope was that Buchan's expedition would reach the North Pole and there be able to make "the observations which it is to be expected your interesting and unexampled situation may furnish you with."<sup>111</sup>

The uncertainty of what could be expected at the North Pole had to do with one of the key research areas of Arctic explorations: magnetism. Terrestrial magnetism was a research area full of unknowns, and one that greatly affected the practical aspects of seafaring. Knowing where you were was a central part of exploration. Since the time of early astronomers, it had been possible to measure latitude with a fair amount of accuracy. Determining longitude, however, was more problematic. Whereas latitude, the position on a north-south axis, could be determined with the aid of stars or the sun, this was not enough to determine longitude, the position on an east-west axis. To determine longitude, a fixed reference point of known longitude was needed, from which the position at sea could be determined by difference in time between their position and the known position. Many European countries were interested in solving this issue. In Britain, the government established the Board of Longitude in 1714, awarding a prize for discovering a way to reliably determine longitude at sea. The Longitude Prize was

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<sup>111</sup> Frederick William Beechey, *A Voyage of Discovery Towards the North Pole: Performed in His Majesty's Ships Dorothea and Trent, Under the Command of Captain David Buchan, R.N.; 1818; to Which Is Added, a Summary of All the Early Attempts to Reach the Pacific by Way of the Pole* (R. Bentley, 1843), 9.

awarded to John Harrison in 1773, for the design of a chronometer, a device that could keep time for months and was not easily affected by the conditions at sea.<sup>112</sup>

Another tool for navigation was the dip circle or dipping needle. The dip of the needle was recorded as part of studying geomagnetism. The needle moved in a vertical plane, to measure vertical magnetic inclination. At the Magnetic North Pole the needle in the instrument would point downward, as the magnetic field became more vertical. If Buchan's expedition had discovered the Magnetic North Pole, they would have measured a dip of 90°. Buchan's expedition came nowhere near either the Geographical or Magnetic North Pole, but both Buchan and Ross' expedition carried with them several dipping needles, as well as chronometers and magnetic compasses. The *Isabella*, Ross' ship, contained seven chronometers, three of which were the property of the British government, and four that were privately owned. The *Alexander* had three government chronometers. The *Isabella* further brought with it four dipping needle and seven compasses.<sup>113</sup> They included multiple versions of the same type of instrument from different manufactures to maximize the data they could produce, and the reliability of the data. Figure 4 illustrates the process of obtaining 'the true' variation by reference to a fixed spot on land.

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<sup>112</sup> William J. H. Andrewes and Harvard University Collection of Historical Scientific Instruments, *The Quest for Longitude: The Proceedings of the Longitude Symposium, Harvard University, Cambridge, Massachusetts, November 4-6, 1993* (Collection of Historical Scientific Instruments, Harvard University, 1996), 4-6; J. B. Hewson, *A History of the Practice of Navigation*, Revised edition first published in 1951 (Glasgow: Brown, Son & Ferguson, 1983), 226; Donald Launer, *Navigation Through the Ages* (New York: Sheridan House, Inc., 2009), 3-6; James Edward McClellan III and Harold Dorn, *Science and Technology in World History: An Introduction*, Revised edition first published in 1999 (Baltimore: JHU Press, 2006), 268.

<sup>113</sup> The dipping needles manufacturers were: one by Nairn, one by Jones, one by Throughton and one by Lockwood

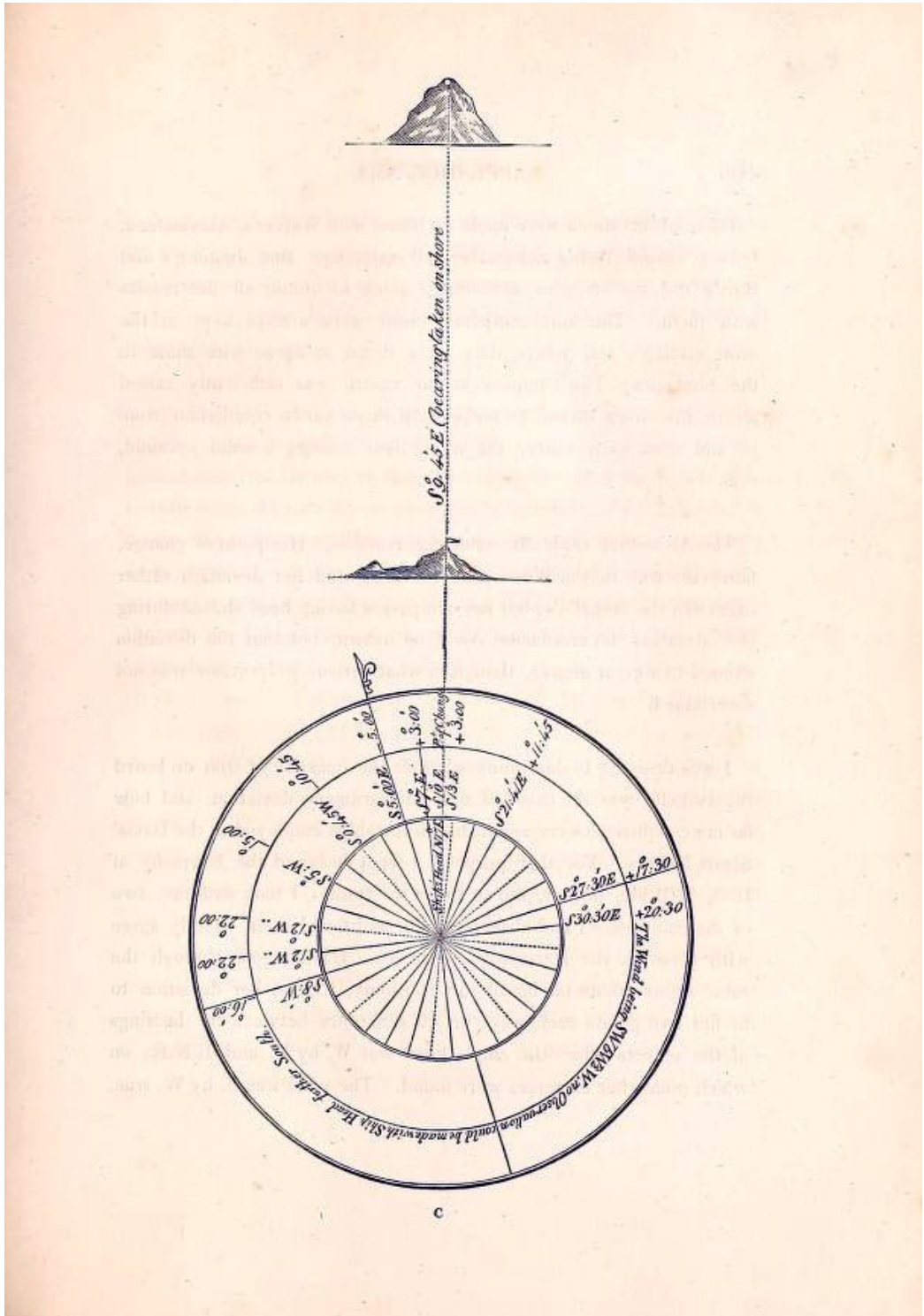


Figure 4. Illustration of experiments made with Kater's compass. John Ross, A Voyage of Discovery, 1819, XVII

They placed a flag on a high point (here on the Three Islands) from where they used Kater's compass to ascertain the bearing of a fixed spot on a mountain nine miles away. The ship was then steered so that the flag and the fixed spot were in one line, which allowed them to take the transit bearings. This process gave a reference for navigation with the compass, to add or subtract the degrees and minutes from the variation observed. These types of experiments were included in the narrative, with tables and illustrations. Ross' narrative and private notebook show that they would take the same measurements multiple times with different instruments to determine if any of the instruments provided outlying data. An average could be calculated from multiple experiments. For example, during a quiet stretch of days at sea, Ross' expedition party made several observations with their instruments and found that Jennings's insulated compass was the medium between the compasses. One of the proposed disturbances was the iron in the ships. Because of the difference in results when using the instruments, Ross noted the name of the instruments and the person who had performed the observations in his notebook. By making multiple experiments with several instruments and different points, Ross attempted to maximize the impact and accuracy of his scientific results. It was a way to eliminate mistakes, something that was later repeated in variation in the methodology of the First IPY as discussed in chapter four. The appendix of the published narrative also contained a 'Report on Compasses, Instruments', and 'Reports on Various Instruments supplied to His Majesty's Ships Isabella and Alexander' that evaluated the instruments. In this way, Arctic voyages functioned as a practical test-space for instrument manufactures. The measurements made during

Arctic explorations were key evidentiary sources for many research fields, even long after the voyage had taken place. As such, explorers faced multifaceted challenges when they wanted to construct narratives or publish scientific results and observations from their voyage.

Having taken part in a voyage was the first step in establishing authority. But visiting the Arctic was not enough in itself to create an authoritative voice. The explorer had to be considered a trustworthy observer and conveyer of scientific knowledge. A central part of the strategies for establishing authority in the Arctic travel narratives was the use of an active present-tense narrative voice, or what has been termed the 'syntax of agency'.<sup>114</sup> The captain of the Arctic voyages authored a narrative of the expedition, which could be published as an official account sponsored by the government or as a private publication. While such an account appeared to have a single author, it was actually a joint text produced by the officers who were part of the voyage. Ross' unpublished notebook from the *Isabella* included several instances where the name of the person who had made which observations was mentioned – including James Clark Ross, Sabine, and Ross himself. While Ross made use of the observations made by the other participants of the voyage, his narrative was framed in a language that emphasized his direct observations; his earnest reporting of everything he saw, nothing more and nothing less, as he wrote, "My nautical education has taught me to act and not to question; to obey orders as far as possible, not to discuss probabilities, or to examine philosophical or

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<sup>114</sup> George W. Stocking, *Observers Observed: Essays on Ethnographic Fieldwork* (Madison: Univ of Wisconsin Press, 1984), 107.



unphilosophical questions. ... I have here attempted nothing beyond the journal of a seaman."<sup>115</sup> This style of writing is similar to what Simon Schaffer and Steven Shapin have termed 'virtual witnessing'.<sup>116</sup> The journal style of the narrative invited the reader to experience the voyage together with Ross, to see the Arctic through his eyes. As a rhetorical tool, virtual witnessing and the emphasis on directly observable data was in frequent use in nineteenth-century accounts of nature. Added to this were the images Ross included in his narrative. Figure 2 shows the view of what Ross termed the Croker Mountains in Lancaster Sound. The visual aid functioned as a further support for his written description of the landscape there, to solidify his claim that there was no access through the sound. The formation of travel narratives as matter of fact through a syntax of agency was in sharp contrast to how it was actually constructed.

Ross' narrative shows the multifaceted nature of Arctic science, and the importance placed upon the scientific observations and experiments. As was remarked in *Blackwood's Edinburgh Magazine*, "Few scientific enterprises in modern times have excited a more intense and general interest than those lately undertaken to the Arctic regions."<sup>117</sup> As outlined in the official instructions to the expeditions, the primary focus of Ross and Buchan's voyages was geographical. The secondary focus was scientific, and the importance placed on this aspect is evident in the

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<sup>115</sup> Ross, *A Voyage of Discovery, Made under the Orders of the Admiralty, in His Majesty's Ships Isabella and Alexander, for the Purpose of Exploring Baffin's Bay, and Inquiring into the Probability of a North-West Passage*, ii.

<sup>116</sup> Shapin and Schaffer, *Leviathan and the Air-Pump*, 60–62.

<sup>117</sup> Anon, "Captain Ross, and Sir James Lancaster's Sound.," ed. William Blackwood, *Blackwood's Edinburgh Magazine* 5, no. 26 (May 1819): 150.

number of valuable scientific instruments and books on-board the ships, as well as the detailed requests for a wide range of scientific results. In the narrative, Ross emphasized how little was known about the area and what explorers could expect, and how much could be gained scientifically from these expeditions. But the nature of undertaking scientific experiments and making observations during the voyages could also cause problems. As part of the narrative, Ross had introduced the other participants of the expedition to the reader, including their role and notable discoveries and contributions to the aims of the voyage. This contributed to his controversy with Sabine.

Sabine was described as the naturalist on board the *Isabella*, commissioned by the Royal Navy as help for Ross in achieving the scientific objects of the voyage. But Sabine claimed that he had been unaware that this was his role. Rather, Sabine argued that he had been asked to focus on variation and inclination of the magnetic needle, intensity of magnetic force, refraction, the aurora borealis and the figure of the earth, and not to collect specimens or make notes about mineralogy, zoology, or botany. In several instances Ross lamented that Sabine's qualifications had not been such that he could properly assist Ross. For example, Ross wrote that, "With respect to the geology of this country, it is impossible to do more than to offer some conjectures, our Naturalist being unfortunately unacquainted with this subject."<sup>118</sup> This was not a very flattering portrayal of Sabine's abilities. Sabine was so unhappy with Ross' narrative of their voyage that he published a response, *Remarks on the*

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<sup>118</sup> Ross, *A Voyage of Discovery, Made under the Orders of the Admiralty, in His Majesty's Ships Isabella and Alexander, for the Purpose of Exploring Baffin's Bay, and Inquiring into the Probability of a North-West Passage*, 116–17.

*account of the late Voyage of Discovery to Baffin's Bay published by J. Ross, R.N.* (1819), the same year. Ross replied with *An Explanation of Captain Sabine's Remarks on the late Voyage of Discovery to Baffin's Bay* (1819).<sup>119</sup> Sabine's complaints were three-fold. Firstly, the primary objective of Ross' voyage had been to ascertain whether there was a passage into the Polar ocean from Baffin's Bay. In his narrative, Ross made use of Sabine's statements in support of the conclusion that there was no passage through Baffin Bay via Lancaster Sound, but Sabine contested this use of his words. Secondly, Ross described Sabine as the naturalist on the voyage, but Sabine rejected this description. Finally, there was the issue of intellectual ownership of the scientific observations and measurements performed during the expedition. These three complaints were closely linked to the way Ross had constructed himself as an authoritative observer.

To Sabine, whether he was officially the naturalist of the voyage extended beyond Ross' insults. If Sabine had been officially commissioned as the naturalist of the expedition, it would not be surprising that Ross as the Captain and Commander of the expedition made use of Sabine's observations, experiments and measurements in an official narrative of the voyage - if the Admiralty had decided to publish one. When plans of an official narrative were abandoned, Sabine wrote to Ross requesting a return of his papers and informed him that he was considering publishing an account of the voyage. While Ross returned Sabine's papers, Ross'

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<sup>119</sup> Sir Edward Sabine, *Remarks on the Account of the Late Voyage of Discovery to Baffin's Bay* (R. and A. Taylor, 1819); John Ross, *An Explanation of Captain Sabine's Remarks on the Late Voyage of Discovery to Baffin's Bay* (London: John Murray, 1819).

own narrative had, Sabine argued, made use of his work without his knowledge or permission, and additionally attributed credit for measurements and observations performed by Sabine to the captain's nephew James Clark Ross, a midshipman of the *Isabella*. James Clark Ross testified in the presence of officers of the Royal Navy, that he had copied the meteorological register from Sabine's personal note-book and provided them to Captain Ross. Part of it was published in Sabine's pamphlet. Sabine questioned "Did you not, when at or near Shetland, on our return home, copy my meteorological register for Captain Ross, at his request, and by my permission; being the same register that is engraved in plates in Captain Ross's book, and which was the only one so kept in the *Isabella*?" to which James Clark Ross responded "Yes, I did."<sup>120</sup> Sabine further charged that Ross had reproduced his notes on magnetic observations and Inuktitut in an incomplete and incorrect form, stemming from Ross' inability to read Sabine's handwriting. To counter this, Ross claimed in his *An Explanation*, that the nephew had been misled by Sabine to believe that his was the only meteorological register kept on the ship. This was not the case, Ross argued, as the experiments and observations had been performed multiple times by multiple officers. His nephew had not seen the published data, and had at the time of the interview been unaware that the published data that he had copied from Sabine was not the same.<sup>121</sup>

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<sup>120</sup> Sabine, *Remarks on the Account of the Late Voyage of Discovery to Baffin's Bay*, 11.

<sup>121</sup> Ross, *An Explanation of Captain Sabine's Remarks on the Late Voyage of Discovery to Baffin's Bay*, 7-8.



Figure 5 John Ross. Wellcome Library, London.  
Library reference no.: WMS 7486<sup>122</sup>



Figure 6. Edward Sabine in 1851. Image credit  
Wellcome Library, London, no. 8320i <sup>123</sup>

James Clark Ross wrote a letter to his uncle on 13 April 1819 wherein he accounted the interview, noting that he was “not conscious of a single point in which I have said anything to your prejudice.”<sup>124</sup> In the letter, he explained how they had questioned him on specific observations, and that he “should not have been sorry” if they had asked more, as it would have given him the opportunity to account how Ross had been present at a “great many” of the experiments, “But as to those on the

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<sup>122</sup> Anon, *No. 87: Pencil Drawing of Rear-Admiral Sir John Ross*, n.d., L0029065, library reference no. WMS 7486, Wellcome Library.

<sup>123</sup> Thomas Herbert Maguire, *Sir Edward Sabine. Lithograph by T. H. Maguire, 1851*, 1851, no. 8320i, Wellcome Library, R. Burgess, *Portraits of doctors & scientists in the Wellcome Institute*, London 1973, no. 2578.1.

<sup>124</sup> James Clark Ross, “James Clark Ross to John Ross. SPRI MS 486/4/2,” April 13, 1819, Scott Polar Research Institute.

Dip and Force I hope that when the Admiralty see clearly that you took one set & Captain Sabine the other, that all offences will be settled.”<sup>125</sup> John Ross claimed that this plurality of registers and observers explained the discrepancies between Sabine’s notes and the published works in his narrative. Different people were behind the data in the notes and in the published narrative.

Was Ross’ textual strategy effective? In the immediate period after the publication of his narrative, the answer is both yes and no. The results of the voyage and Ross’ narrative were widely discussed in the periodical press. Janice Cavell has examined the reception of Ross’ narrative in the periodical press and particularly drawing attention to the impact the relationship between Barrow and Ross had on the general presentation of expeditions in search of a North West passage.<sup>126</sup> As Cavell shows, Barrow’s insistence that voyages to unknown areas of the Arctic were possible because of the change in ice, as Scoresby had reported, was contested by many. The period between the return of Ross’ expedition in 1818 and the arrival of news of Parry’s successful discovery of a passageway through Baffin Bay in 1820 was a period of uncertainty where both Ross and Barrow could be right. Ross was a well-respected naval officer but Sabine’s accusations had cast a serious cloud of uncertainty over the trustworthiness of his words. As a first-hand observer, Ross thought his statement that there was no passageway through Lancaster Sound would have been believed. The structure of his narrative was such that his statements were intended as a faithful description of the Arctic, with the active voice

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<sup>125</sup> Ibid.

<sup>126</sup> Cavell, *Tracing the Connected Narrative*, 67–74.

inviting the reader to experience the Arctic with him. The doubt raised by Sabine's accusations was a serious blow to Ross' credibility.

The uncertainty surrounding the trustworthiness of Ross was captured in *The Literary Gazette* which on the question of Lancaster Sound noted that "We confess that we are against him in this hypothesis: he may be correct, but he certainly has not solved the problem. The very sound ... which was most investigated, seems to be left in as much doubt as those Straits which were passed without examination."<sup>127</sup> The immediate reactions to the narrative were not wholly negative, and Ross was commended for ensuring the safety and health of his men, as well as for the quality of the scientific observations carried out during the expedition. For example, *The Imperial Magazine* gave Ross a negative compliment, as they wrote, "we cannot, as some have done, pronounce this undertaking to have been altogether useless, though it has been ineffectual as to the attainment of its principal object."<sup>128</sup> If the scientific results from the voyage had not made up for the lack of geographical advance, at least they were a positive addition to knowledge, as they wrote "the experiments made on the magnetic influence, and on the vibrations of the pendulum, the meteorological observations, the geographical determinations, and the discovery of a new Esquimaux tribe, that will undoubtedly be of essential

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<sup>127</sup> Anon, "Captain Ross's Voyage to Baffin's Bay.," ed. William Jerdan, *The Literary Gazette : A Weekly Journal of Literature, Science, and the Fine Arts* 3, no. 118 (April 24, 1819): 261-63.

<sup>128</sup> Anon, "Polar Expedition.," ed. Samuel Drew, *The Imperial Magazine* 1, no. 8 (August 1819): 697-703.

service to future investigators, form a considerable accession to our stock of science and knowledge.”<sup>129</sup> Much of this was due to Sabine’s work.

About Ross’s style of writing, *The British Review and London Critical Journal* described it as exhibiting a “very praiseworthy modesty”.<sup>130</sup> Similarly, the review published in *The Edinburgh Review*, attributed to Murray Hugh (1779-1846), noted that “Captain Ross appears to have done his duty with great diligence, courage and ability; and to have told his story very clearly and honestly.”<sup>131</sup> However, the narrative itself, the review noted, was dull and heavy. *The Literary Gazette* referred to the situation with Sabine as a “misunderstanding” which was why the geological and natural history side of the scientific experiments were not as thoroughly carried out as would have been hoped. *The British Review and London Critical Journal* charged the official instructions with being too vague, and “the whole of this code of instructions bears a crude and unphilosophical form, and reflects very little credit on the composer.”<sup>132</sup> The review further scolded Sabine and Ross for letting their personal affairs negatively influence the production of results, as it wrote “Nor does there seem to be any direct and satisfactory way of accounting for the very great

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<sup>129</sup> Ibid., 702.

<sup>130</sup> Anon, “ART. XIX.-A Voyage of Discovery Made under the Orders of the Admiralty in His Majesty’s Ships Isabella and Alexander, for the Purpose of Exploring Baffin’s Bay, and Inquiring into the Probability of a North-West Passage.,” ed. William Roberts, *The British Review, and London Critical Journal, 1811-1825* 13, no. 26 (May 1819): 413–39.

<sup>131</sup> Anon, “ART. V.-A Voyage of Discovery, Made under the Orders of the Admiralty, in His Majesty’s Ships Isabella and Alexander, for the Purpose of Exploring Baffin’s Bay, and Inquiring into the Probability of a North-West Passage.,” ed. Francis Jeffrey Jeffrey, *The Edinburgh Review, 1802-1929* 31, no. 62 (March 1819): 337.

<sup>132</sup> Anon, “ART. XIX.-A Voyage of Discovery Made under the Orders of the Admiralty in His Majesty’s Ships Isabella and Alexander, for the Purpose of Exploring Baffin’s Bay, and Inquiring into the Probability of a North-West Passage.,” 418.



deficiency of detail in the department to which Captain Sabine's exertions were directed. Collisions of personal claims and private competitions are always at work to oppose the success of public undertakings, even on subject of the most general interest to humanity."<sup>133</sup> A detailed examination of Sabine's *Remarks* and Ross' *A Voyage* was printed in *The Edinburgh Review* in June 1819.<sup>134</sup> Here it was lamented that Ross had altogether made use of Sabine's words in this context, as although they did not doubt the veracity of Ross' words, it cast a shadow of doubt on his account that extended to the rest of the book. While *The Edinburgh Review* noted that "we are of the number of those who regard a north-west passage from the bay of Baffin into the Pacific as a mere fancy never to be realized", it pointed out that a key problem was how Sabine's protest influenced the perceived credibility of Ross.<sup>135</sup> The veracity of Ross' narrative had been questioned.

The whole situation was catastrophic for Ross and his career. By contrast, Sabine continued to enjoy a successful scientific career and participated in further explorations. It was a perfect trifecta of problems for Ross: he did not find a passage through Baffin Bay, he was accused of plagiarism, and then Parry showed that the 'Croker Mountains' had been a mirage. Ross was never asked to return to the Arctic by the Royal Navy, and he spent the next several years rummaging over what had happened. His nephew James Clark Ross however, had great success, and later

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<sup>133</sup> *Ibid.*, 419.

<sup>134</sup> Anon, "ART. VIII. 1. A Voyage of Discovery, Made, under the Orders of the Admiralty, in H. M. Ships *Isabella* and *Alexander*, for the Purpose of Exploring Baffin's Bay, and Inquiring into the Probability of a North-West Passage.," ed. William Chambers, *The Edinburgh Monthly Review* 1, no. 6 (June 1819): 726–46.

<sup>135</sup> *Ibid.*, 736.

accompanied Parry on his expeditions. The plurality of hidden authors of Ross' narrative had given the text the character of a frank, straightforward description of the Arctic from Ross' perspective, but this technique had backfired and Ross had to reveal the composite nature of his scientific observations to avoid the more serious charge of plagiarism. He was forced to show what was behind the curtain. As the example of Ross and Sabine shows, the techniques utilized to establish textual authority could also cause problems for the author. The strategies that Ross used to establish an authoritative narrative voice were the same that Sabine utilized to discredit him. Both had first hand experience in the Arctic; they were both gentlemen and men of science. The unknowns of the Arctic and the uncertainty of what could be accomplished there scientifically meant that the construction of the Arctic explorer as trustworthy observer was a central part of the travel narratives, not just for the reception of scientific results but also for the career and social, cultural, and scientific status of the explorer.

### **3. Denmark in Greenland: Wilhelm August Graah**

The first post-war British expeditions to the Arctic were marked by uncertainty, both in terms of what to expect when travelling through the icy North and what could be accomplished in this new natural laboratory. The first Danish expeditions to the Arctic after the Napoleonic Wars differed in three significant ways. They were not focused on finding a North West Passage, but instead attempted to find traces of the lost Nordic colony while ascertaining what resources could be extracted for

trading purposes in the Danish empire. Secondly, the size of the expeditions were limited to a handful of people. Finally, the involvement of the KGH, as with the expeditions organized by or in conjunction with the HBC, changed the level of uncertainty both with regards to what could be accomplished with the expeditions, and what to expect from the environment. This section examines the Danish expedition to the East coast of Greenland led by Graah between 1828 and 1829 and it shows how the ambitions for collecting and making available knowledge about the empire associated with *Flora Danica* were also reflected in Graah's narrative, *Undersøgelses Rejse til Østkysten af Grønland* (1832).<sup>136</sup>

The aim of Graah's expedition was to survey the eastern coast of Greenland to find traces of what was called the 'East Bygd' (*de Gamles Østerbygd*), while making scientific observations, collecting natural history specimens, and establishing friendly links with the Indigenous groups living along the coast.<sup>137</sup> Graah's narrative contained five appendices: the true site of the East Bygd, Zoological, Botanical, Meteorological, and other scientific observations. The four latter categories were similar to that of the British expeditions to the Arctic before it, but the first category show the variation in focus of Graah's expedition. The lost Nordic tribe was believed to have settled in the East Bygd. The existence of the lost tribe was a way to justify

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<sup>136</sup> Wilhelm August Graah, *Undersøgelses-Reise Til Østkysten Af Grönland. Efter Kongelign Befaling Udført I Aarene 1828-31* (København: J.D. Qvist, 1832). For quotations I make use of the English translation, Wilhelm August Graah, *Narrative of an Expedition to the East Coast of Greenland, Sent by Order of the King of Denmark, in Search of the Lost Colonies*, trans. G. Gordon Macdougall, First english edition, translated by G. Gordon Macdougall for the Royal Geographical Society of London, 1837.

<sup>137</sup> The aim was to travel from Cap Farvel to the 69° latitude

the Danish imperial presence in Greenland by giving evidence of a long standing historical settlement. As Graah's narrative illustrates, what counted as evidence was broadly defined, and included remains of buildings or artefacts as well as cultural practices. As such, *Undersøgelses Rejse* included detailed ethnographic observations that drew upon historical and contemporary evidence.

When the British explorer Scoresby surveyed East Greenland in 1822, he had also been interested in finding traces of the lost Nordic tribes. In his narrative, *Journal of a voyage to the northern whale-fishery: including researches and discoveries on the eastern coast of West Greenland, made in the summer of 1822, in the ship Baffin of Liverpool* (1828), Scoresby noted that the most interesting part of the journey for the broader public was the subject of the lost Nordic tribes. While they did not meet any humans during the voyage at all, they did see remains of abandoned dwellings. These remains indicated, he believed, that the people were not only 'Esquimaux', but linked to the lost tribe. Graah's narrative referenced Scoresby, and discussed this and other voyages to the region at length. Scoresby argued that he was the first British subject to undertake a survey like this to this region. However Graah pointed out that:

although he [Scoresby] did succeed in landing at several points of the East coast, he did so at a much higher latitude than where the ancient colonies were to be looked for, and at points where, it is probably, a landing might in most years be effected. In fact, long before his time, the portion of the East coast between 70 and 75 latitude had been visited by Danish, Dutch, and

English whalers. His merits consists in having furnished an interesting account of this part of the coast, and a more authentic chart of it than any we before possessed, though he, unquestionably, is in error, where he asserts that, by keeping close in shore, one may sail along the whole East coast from lat. 70 to Cape Farewell. Danel's, Olsen's, and Egede and Rothe's expeditions, prove the fallacy of this opinion.<sup>138</sup>

Graah concluded that the East Bygd was not on the East coast of Greenland, as "has been asserted by a no less scientific navigator than Scoresby", but on the West coast.<sup>139</sup> Graah's expedition found no trace of the lost colony but determined that the 'East Bygd' was only called East in its reference to another Bygd, both on the West coast.

The expedition left from Copenhagen in the ship *Hvalfisken* on Sunday 30 March 1828. *Hvalfisken* was a brig, a fast and easily manoeuvrable ship, which belonged to the Greenland Board of Trade. Upon arrival in Cape Farewell they changed to an umiak, a type of boat used by Indigenous Greenlanders also called a 'wife boat' (*konebåd*). This type of boat was considered to be the best suited for an expedition such as this, as it was small and easy to manoeuvre. Graah's expedition was small and relied heavily on the cooperation and support of Indigenous Greenlanders. It consisted of two naturalists, the geologist Christian Pingel (1793-1852) and the botanist Jens Vahl (1796-1854), the Superintendent of Colony of

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<sup>138</sup> Graah, *Narrative of an Expedition to the East Coast of Greenland, Sent by Order of the King of Denmark, in Search of the Lost Colonies*, translation 13.

<sup>139</sup> *Ibid.*, 160.



Figure 7. Map produced from Graah's expedition. Graah, *Undersøgelses-Reise til Østkysten, 1832*<sup>140</sup>



Figure 8. Approximate route taken by Graah. Original map produced by the U.S. Central Intelligence Agency, my edits<sup>141</sup>

<sup>140</sup> Graah, *Undersøgelses-Reise Til Østkysten Af Grönland. Efter Kongelign Befaling Udført I Aarene 1828-31*, fronts piece.

<sup>141</sup> U.S. Central Intelligence Agency, "Arctic Region."

Frederick's-hope Jens Mathias Matthiesen (1800-1860), an unnamed sailor who was also the cook, and several Indigenous Greenlanders commissioned at different points during the expedition. The guide to the expedition was an Indigenous Greenlandic man called Ernenek<sup>142</sup>. The importance Graah placed on finding the right guide is evident in the lengths that Graah went to in order secure Ernenek's help. While still deliberating the offer, Ernenek asked Graah to meet him in the neighbourhood of Statenhook, and afterwards accompany him to either in Narksak or Narksariniut. But Graah wanted to make sure that Ernenek would actually come with him, so he decided to travel with him to Nennortalik to secure the approval of his family.<sup>143</sup> After meeting with Graah, Ernenek's two wives agreed to accompany the expedition.

The official instructions requested that Graah used his leisure time between his arrival in Greenland and his departure up the east coast, to chart the coastal district of Juliana's-hope. Graah reached further north on the eastern coast of Greenland than any other European had before, and the map of the coastal line produced was one of the significant results from the expedition. Graah collected animals and minerals for the Royal Museum, and plants and seeds for the Botanic Garden. In the instances it was not possible to collect a specimen, they were asked to make a coloured drawing "with a view to their insertion in the Flora Danica".<sup>144</sup> Pingel had no part in the official instructions, but accompanied the party to

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<sup>142</sup> Dates unknown

<sup>143</sup> Graah, *Narrative of an Expedition to the East Coast of Greenland, Sent by Order of the King of Denmark, in Search of the Lost Colonies*, 32.

<sup>144</sup> *Ibid.*, xiv.

Greenland on a somewhat independent basis with the purpose of carrying out geological research. As the expedition botanist, Vahl was instructed to collect materials for *Flora Danica* by the professor in botany at Copenhagen University Jens Wilken Hornemann (1770-1841).<sup>145</sup> The production and publication of *Flora Danica* was one of the key projects for cataloguing the natural history of the Danish empire in the eighteenth and nineteenth centuries. It was published between 1761 and 1883, and contained a total of 3240 copper plates in 51 volumes and three appendixes.<sup>146</sup> Historian Henning Knudsen has pointed out that although Linnaean taxonomy was practical and fairly straightforward, the varying amount of information provided together with the specimens or illustrations meant that some plants had been mis-categorized, leaving *Flora Danica* in a disorganized state. Jens Vahl's father, Martin Vahl (1749-1804), had been the Professor of Botany at Copenhagen University and a co-editor of *Flora Danica*. Martin Vahl, a student of Linnaeus, wanted to bring order to the collection of data, and establish a catalogue of all the plants in the world organized after Linnaean principles.<sup>147</sup> As Martin Rudwick has written in *The Meaning of Fossils*, "'Natural History' was still, as it had been for Linnaeus and Buffon in the eighteenth century, the systematic ordering of

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<sup>145</sup> Arnold Arboretum, *Sargentia: A Continuation of the Contributions from the Arnold Arboretum of Harvard University* (Arnold Arboretum of Harvard University, 1943).

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<sup>146</sup> Det Kongelige Bibliotek, "Flora Danica - Det Kongelige Bibliotek," accessed December 11, 2015, [http://www.kb.dk/da/materialer/kulturarv/institutioner/DetKongeligeBibliotek/Billeder\\_oversigt/flora\\_danica.html](http://www.kb.dk/da/materialer/kulturarv/institutioner/DetKongeligeBibliotek/Billeder_oversigt/flora_danica.html).

<sup>147</sup> Eric Hultén, *Flora of Alaska and Neighboring Territories: A Manual of the Vascular Plants* (Stanford: Stanford University Press, 1968). 982; Knudsen, *Fortællingen om Flora Danica*.



the whole range of diverse natural entities.”<sup>148</sup> The Arctic explorers were, as with explorers to other areas of the world, faced with the problem of categorizing a natural world that sometimes looked vastly different from what you would find in England or Denmark. Graah and his two naturalists worked within a framework of Linnaean taxonomy when they collected specimens during their expedition to Greenland. Upon their return to Denmark, Hornemann later classified the specimens Graah brought home with him, again in the Linnaean system. Jens Vahl’s collection from the voyage added a substantial amount of new knowledge to *Flora Danica*.

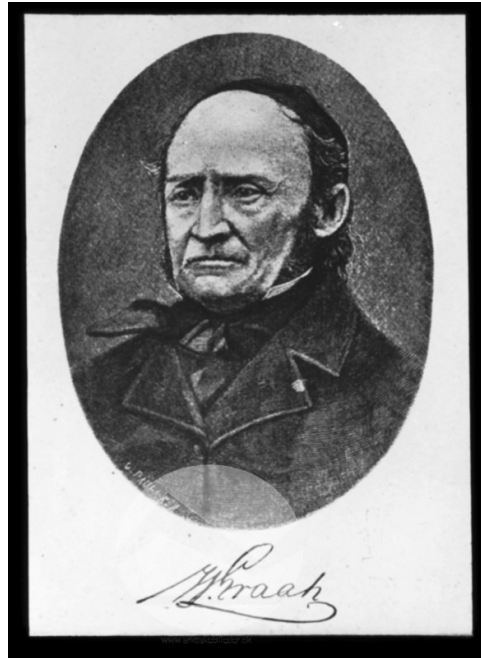


Figure 9 Wilhelm August Graah. Image credit Arktisk Institut fotosamling (Danish Arctic Institute), image no. 17720<sup>149</sup>

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<sup>148</sup> Martin J. S. Rudwick, *The Meaning of Fossils: Episodes in the History of Palaeontology* (Chicago: University of Chicago Press, 1976). 208

<sup>149</sup> Anon, *Portræt Af W. A. Graah*, n.d., 17720, Arktisk Insitut Fotosamling.

Graah described how the inhabitants of the village Nennortalik gave Vahl a nickname that described his preoccupation with collecting natural history specimens:

They gave thus to Mr. Vahl the name of “ Piniartorsoak,” i. e., the diligent earner, not because he exhibited any great skill at catching seals, (which the word literally signifies,) but because they observed him to be constantly in chase of gnats and flies, intended to be added to his collection of insects.<sup>150</sup>

Vahl did the primary part of collecting plants, birds and insects as well as making meteorological observations, whereas Graah focused on making observations on magnetism and aurora borealis. The atmospheric phenomena of aurora borealis, northern lights, was a key area of interest. What was the cause of the phenomena and its variations, its movements and shapes, and how was it related to other meteorological phenomena, magnetism and sound were questions researchers were debating both in this period and the years that followed.<sup>151</sup> Graah’s account of the northern lights particularly drew out the beauty of this Arctic phenomenon. He wrote that they were “a remarkable and beautiful phenomenon of which the inhabitants of the greater part of Europe can form no adequate conception” and

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<sup>150</sup> Graah, *Narrative of an Expedition to the East Coast of Greenland, Sent by Order of the King of Denmark, in Search of the Lost Colonies*, translation 49.

<sup>151</sup> Harald Falck-Ytter, *Aurora: The Northern Lights in Mythology, History and Science*, Paperback translated edition, first published in 1985 (Edinburgh: SteinerBooks, 1999). 15-16

described two types of light in details.<sup>152</sup> The first type of northern light could be found uniformly between the magnetic E.S.E. and S.W., or W.S.W. He estimated that the highest point of the light's arch in the magnetic south was between 10° and 20° above the horizon, from where rays of light spread out. This type, he believed, usually occurs but sometime precedes a great temperature change. Graah linked the second type to barometrical changes. He described this type of northern lights in vivid terms, which emphasized the wonders of the phenomenon:

The other sort of northern light, which, still more than the former, seems to stand in connexion with barometrical changes, flits from place to place in the semblance either of light luminous clouds agitated by the wind, and through which the light appears to diffuse itself with a sort of undulating motion, or of flaming rays, flashing, like rockets, across the firmament, most commonly upwards in the direction of the zenith, or, finally, like a serpentine, or zig-zag belt of vivid, undulating light, frequently coloured, which at one moment is extinguished, and the next relit.<sup>153</sup>

It was a version of the second type of aurora borealis, which Graah considered to be most beautiful, namely the 'Corona', described as "a luminous ring near the zenith, of from 2° to 3° in diameter, with rays diverging in every direction, like prolonged

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<sup>152</sup> Graah, *Narrative of an Expedition to the East Coast of Greenland, Sent by Order of the King of Denmark, in Search of the Lost Colonies*, 52.

<sup>153</sup> *Ibid.*

radii, from its centre".<sup>154</sup> The Corona only lasted a few seconds at a time, appearing like an explosion of light on the sky. This he had observed to primarily appear "to the east of the meridian, at an elevation of from  $81\frac{1}{2}^{\circ}$  to  $82\frac{1}{2}^{\circ}$  above the horizon."<sup>155</sup> The position of the Corona was determined first by reference to the stars around its centre of appearance. Then Graah used the horary angle, or hour-angle, which gave the distance from the meridian in time to determine the azimuth and altitude of the centre of the Corona. The horary angle was a way of determining the altitude of objects in the sky.

In addition to determining the positions of aurora, Graah also addressed the question of aurora and sound. Graah believed that the 'low, hissing noise' that sometimes accompany the northern lights, are due to a combination of movements in the ice and the wind moving over the snowy landscape. To examine the effect of northern lights on magnetism, he suspended a magnet from a silk fibre during the more vivid occurrences of northern lights, and found no effect on the magnet. Conveying the colour of the Arctic was important for scientific purposes, but it also factored in how a reader of the travel narratives would imagine the Arctic. Graah's Arctic landscape was one of colour – atmospheric phenomena, Indigenous Greenlanders, vegetation, animals, glaciers and ice were all described in a vivid language. The illustrations in his narrative, prepared from his sketches and finished back in Denmark, added to this colourful portrayal of Greenland. The eight illustrations, engraved on copperplates, focused on people and some of the key ruins

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<sup>154</sup> Ibid.

<sup>155</sup> Ibid., 53.

they examined for traces of runes or other evidences for the lost Nordic tribe. The illustrations were coloured, which was a big difference between this travel narrative and the English translation of his book. Graah's narrative was translated into English and published in 1837. The publication had been delayed by the sudden death of the translator, George Gordon Macdougall. The delay caused by Macdougall's death allowed James Clark Ross to add footnotes to the book. In the editorial note, they wrote they had decided to keep Graah's "homely" style of writing rather than changing it to "the more usual forms of expressions".<sup>156</sup> The translation was done for the Royal Geographical Society of London and contained the appendix and Graah's original chart from the expedition, but it did not include any of the illustrations from the original Danish publication. As Robert David has noted, because the primary visual representations of the Arctic in Britain were through the periodical press and published in black and white, the image of the Arctic that most British readers would be familiar with was colourless. The illustrations in Graah's narrative were linked to an ethos of knowledge dissemination also present in the *Flora Danica* and the later Grundtvigian Folkehøjskoler, which started in Rødding in 1844.<sup>157</sup> Copies of *Flora Danica* were given out to what can usually be considered epicentres of knowledge dissemination, such as ministers and libraries. They were made available for perusal by people who could not afford a copy of their own, to acquaint all readers with the Danish kingdom.

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<sup>156</sup> Ibid., preface.

<sup>157</sup> For more on science and the Danish Folkehøjskoler, see Hans Henrik Hjerimitslev, "Naturvidenskabens Rolle På de Danske Folkehøjskoler," in *Två Sidor Af Samma Mynt? Folkbildning Och Yrkesbildning Vid De Nordiska Folkhögskolorna*, 2010, 111–38.



Figure 10 Illustration of a 'Konebåd' and unnamed Indigenous informants. Graah, Undersøgelses-Reise til Østkysten, 1832, 72-3



Figure 11 Illustration of living quarters and likely depicting Ringeoat, Dorthe, and an unnamed woman from Nennortalik. Graah, Undersøgelses-Reise til Østkysten,

While Ross' narrative from his 1818 expedition included several coloured images, the book was expensive and the images were generally not reproduced in the long summaries circulating in the press. The publication of Graah's coloured illustrations was made possible by a financial subsidy from the government, as was *Flora Danica*. The coloured illustrations of Graah's narrative and *Flora Danica* are suggestive of a different type of visual epistemology than in the British context. Graah's Arctic was full of colour, both through the "homely" style of writing, and through its illustrations. The illustrations in Graah's narrative are also indicative of Graah's perception of Indigenous Greenlanders. Scholars such as Anne McClintock and Nancy Stepan has argued that race, gender, place, and class were created by their relation to each other in complicated interactions.<sup>158</sup> From this perspective, racial differences became gendered, and gender differences become racialized. The illustration in figure 10 showed a striking difference in the amount of dress worn between the two women and the man. The identity of the portrayed is unclear, but it was likely the three people Graah shared living quarters with during the winter of 1829 and 1830, a woman called Sorte ('Black') Dorthe, an unnamed woman from Nennortalik, and her partner Ringeoat.<sup>159</sup> The two women were almost naked, and performing domestic tasks with their breasts clearly visible. By contrast, the man was portrayed fully clothed, sitting by a fire. This is highly suggestive. Anne McClintock has proposed the concept of "European porno-tropics" within which

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<sup>158</sup> Stepan, *Picturing Tropical Nature*, 5.

<sup>159</sup> Graah, *Undersøgelses-Reise Til Østkysten Af Grönland. Efter Kongelign Befaling Udført I Aarene 1828-31*, 114.

“women figures as the epitome of sexual aberration and excess”.<sup>160</sup> From this perspective, the choice to portray the women naked was linked to ideas of the Indigenous Greenlanders as more sexual and therefore more primitive. But Graah’s narrative does not straightforwardly lend itself to this conclusion. Rather Graah emphasized the fidelity within married couples, in East Greenland at least, as he wrote “when married, they lead, in general, a reputable life together”.<sup>161</sup> Further, he suggested, young unmarried women “have many self-denials to endure, in order to avoid ... placing in jeopardy their reputation, or their life”.<sup>162</sup>

While Linnaean botany focused on producing images that were idealized composites rather than realistic depictions of unique plants, and this was the style of images produced for the *Flora Danica*, the illustrations of Indigenous Greenlanders in the narrative were meant to be a visual representation of actual living people. The illustrations of Indigenous Greenlanders and their living quarters were also not in the style of what Martin Kemp described as Goethe’s Ur-form – similar to Galison and Daston’s concept of ‘truth-to-nature’ - where “the ‘leaf archetype’ has no existence as such. Rather it is a supreme exemplar of the kind of organizing and generative template (or metaphysical ‘form’) which the discerning student can recognize as expressing the principles of unity on which God has

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<sup>160</sup> Anne McClintock, *Imperial Leather: Race, Gender, and Sexuality in the Colonial Contest* (New York: Routledge, 1995), 22.

<sup>161</sup> Graah, *Narrative of an Expedition to the East Coast of Greenland, Sent by Order of the King of Denmark, in Search of the Lost Colonies*, 117.

<sup>162</sup> *Ibid.*, 124.



constructed the manifold varieties of nature.”<sup>163</sup> Instead the illustrations in Graah’s narrative are more the style of what Bleichmar has described as travellers functioning as a surrogate eye for the reader. Graah’s images were vignettes of what the daily life in Greenland was like, to capture for the reader what it was like seeing Indigenous Greenlanders *in situ* going about their daily routine. Another significant point regarding Ross’ illustrations is their subject matter. In contrast with Graah’s, Ross’ illustrations of Indigenous peoples were highly stylized, more like portraits than vignettes. Bleichmar has shown, within the Spanish imperial context, how images were a way of connecting the metropole with the empire.<sup>164</sup> The visual images travelled over oceans, to make the world knowable to both the scientific and broader reading audience. Graah’s illustrations are suggestive of these multiple functions of travel narratives. Travel narratives were scientific documents, but also constructed for entertainment and imperial purposes. As with Ross’ style of writing, there was an emphasis on frankness in the narrative and visual style, not dissimilar to the rhetorical and textual strategy Steven Shapin and Simon Schaffer have described as virtual witnessing in the 17<sup>th</sup> century.<sup>165</sup>

Graah described the types of clothing Indigenous Greenlanders on the east coast usually wore and noted that “in Summer, when at home, or in Winter, when in their heated earth-huts, a scanty pair of breeches constitutes their entire dress.”<sup>166</sup>

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<sup>163</sup> Martin Kemp, *Seen/Unseen: The Visual Ideas Behind Art and Science* (Oxford: Oxford University Press, 2006), 191.

<sup>164</sup> Bleichmar, *Visible Empire*, 46.

<sup>165</sup> Shapin and Schaffer, *Leviathan and the Air-Pump*.

<sup>166</sup> Graah, *Narrative of an Expedition to the East Coast of Greenland, Sent by Order of the King of Denmark, in Search of the Lost Colonies*, 116.

According to this description, the way the women were portrayed in the illustration discussed above was how they were actually clothed. While the choice to portray them naked this could be a matter of attempted realism, it is suggestive that Graah did not portray them in the other styles of clothing he described in detail in the narrative. There is a tension in Graah's writing between on the one hand his portrayal of Indigenous Greenlanders as civilized with a detailed and interesting culture, and on the other hand emphasizing their perceived primitiveness. This was, as will become clear in the later chapters, a significant and problematic feature of Danish imperialism in Greenland.

Graah recounted in detail the customs and morals of Inuit from the east coast of Greenland. Graah's description was very positive, praising their love for their children, sense of honour and adversity to saying something that could offend, "things of which they, however, entertain notions widely different from ours."<sup>167</sup> Graah was responding to the account of the inhabitants of the east coast who "from time immemorial, they have been cried down as infinitely more savage and cruel" than the inhabitants of the West coast. However, Graah did not appear to disagree with Hans Egedes' extremely negative account of the morals of the inhabitants of the west coast. According to Graah, Inuit from east Greenland were honest, never raped or plundered and only stole if it was a matter of life or death, and were hospitable, forgiving and forbearing.<sup>168</sup> Peculiarly, Graah in the same passage noted that "their worst faults are – ingratitude, a total want of sympathy for the distressed and

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<sup>167</sup> Ibid., 119.

<sup>168</sup> Ibid., 122.

destitute (those excepted who are related to themselves), and cruelty to dumb animals”.<sup>169</sup> Despite his description of Indigenous Greenlandic customs, morals, and his accounts of his engagement with them during his voyage and the value he placed on people such as Ernenek, Graah was still unable to fully let go of the negative language surrounding many of the accounts of Inuit in this period. Graah’s perception of Indigenous Greenlanders is significant especially because of Graah’s later career trajectory. Upon his return to Denmark, Graah was appointed as a director of KGH. Klaus Georg Hansen has described the impact of Graah’s leadership as a radical change in the Danish administration of Greenland aimed at improving the living conditions of Greenlanders. Hansen wrote, “Graah changed the character of Danish colonialism in Greenland through the 1830s from parasitic to intensive colonization, with the improvement of the Greenlanders as its new primary goal.”<sup>170</sup> However, what the Danish imperial authority in the Greenland considered ‘improvement’ was, as the next chapter shows, a contentious and highly problematic aspect of the civilization project. This was also the case with the trading company in Canada, the HBC.

Graah’s narrative was well received in Denmark, and a review was published in the journal *Maanedskrift for Litteratur* with long summaries of each section of Graah’s book.<sup>171</sup> The review was published by Pingel, who was perhaps not fully impartial given his albeit informal involvement in the expedition. Throughout the

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<sup>169</sup> Ibid., 122–23.

<sup>170</sup> Klaus Georg Hansen, “Wilhelm August Graah,” in *Encyclopedia of the Arctic*, ed. Mark Nuttall (New York: Routledge, 2012), 763.

<sup>171</sup> C Pingel, “XXIX. W.A. Graah, Undersøgelsesreise Til Østkysten Af Grønland,” *Maanedsskrift for Litteratur* 10 (1833): 593–648.

review Pingel referred to Scoresby's expedition in Greenland, as well as that of Sabine and Clavering. Knowing the natural world of the kingdom was intimately linked with imperialism, and Pingel congratulated the Danish government not only for supporting the expedition but also for supporting the publication of the results so that the purchase price was low.<sup>172</sup> This was part of the ambition to catalogue and make knowledge about the empire available to the entire Danish kingdom, which was also reflected in *Flora Danica*. Graah's expedition established the location of the East Bygd, and it charted a long area of the coastal line, heavily supported by Ernenek. Graah's view of his multiple Indigenous helpers during the expedition is significant, especially because of his later career trajectory. His narrative shows the tension between how explorers relied upon the assistance of Indigenous peoples to travel and survive in the Arctic, and the negative stereotypes harboured against extra-Europeans. This was also evident in Franklin's expeditions, as examined in the next section.

#### **4. The HBC and the British Royal Navy joins forces**

Together with the British Navy, the HBC sent out expeditions to survey Arctic British North America, to find a route to the Pacific and for scientific purposes. The HBC supported several overland expeditions, in part because the HBC could use their engagement in scientific pursuits to better their image. This section examines

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<sup>172</sup> Ibid., 647.

the changing strategies for explorations in the British North American Arctic in the period following the merger between the HBC and the NWC by examining the two Franklin expeditions. A key feature of Franklin's expeditions was the adoption of Indigenous practices for travelling and surviving in the Arctic. In particular, as this section shows, because the HBC was unable or unwilling to fully assist Franklin and his men, the help they received from the Yellowknives was invaluable. This was also a key difference between the first and the second expedition. By the time of Ross' return to the Arctic, the HBC was in a position to support the expedition, and this lowered the uncertainty. With a starting point in Franklin's *Narrative of a Journey to the Shores of the Polar Sea in the Years, 1819, 1820, 1821* (1823), this section shows how Franklin managed the geographical uncertainty, and the role of Indigenous informants in shaping the expedition.

Taken on its own, Franklin's expedition was a failure. But the hard-won lessons of the expeditions were passed on to future groups of explorers. Franklin's expedition between 1819 and 1822 took place prior to the merger between the HBC and the NWC. While the HBC and the NWC had agreed to cooperate, in reality the conflict between them caused problems for the expedition.<sup>173</sup> In particular, the trading companies were unable to provide all the provisions they had promised.<sup>174</sup> This was the first of three Arctic expeditions led by Franklin, entitled either Franklin's first (Arctic Land) expedition, or the Coppermine Expedition. Franklin

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<sup>173</sup> Binnema, *Enlightened Zeal*, 135.

<sup>174</sup> *Ibid.*, 137.

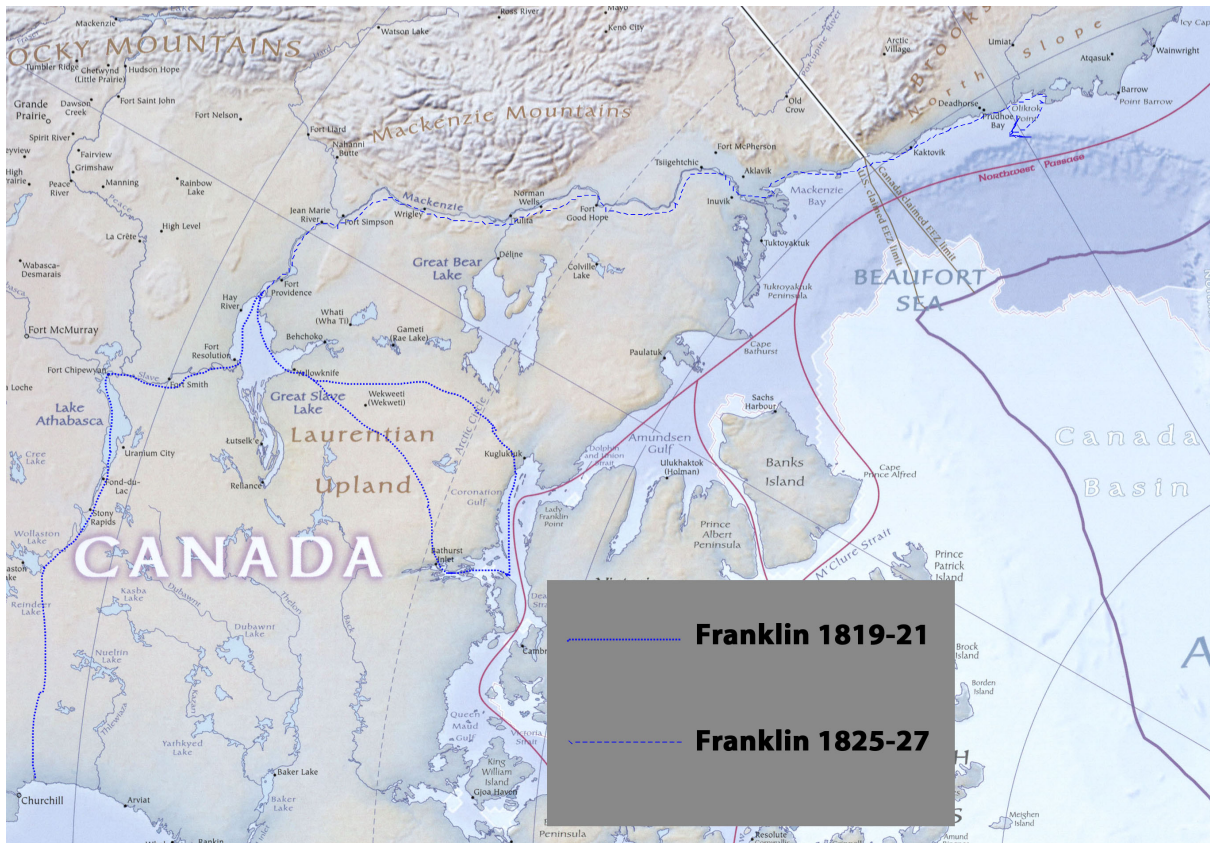


Figure 12. Approximate route of the first and second Franklin expedition. Map originally produced by the U.S. Central Intelligence Agency, my edits<sup>175</sup>

<sup>175</sup> U.S. Central Intelligence Agency, "Arctic Region."

was part of Buchan's 1818 expedition in search of the North Pole, but had no real experience leading an overland expedition. Franklin left England with five men, and plans of engaging more in Canada. These were George Back, Robert Hood, John Richardson, John Hepburn and Samuel Wilkes – although the latter was sent home early on the voyage. They travelled in a ship belonging to the HBC, called the *Prince of Wales*.<sup>176</sup> In Canada, Franklin was offered the support of Willard Ferdinand Wentzel (1780?-1832).<sup>177</sup> Wentzel was an experienced trader from the NWC.<sup>178</sup> The British Government had assured both the HBC and the NWC that Franklin's expedition in no way intended to interfere in the dispute between the two companies. Moreover, the fur-traders who assisted Franklin were promised reimbursement for the supplies or assistance provided to Franklin.<sup>179</sup> Franklin also gained the assistance of the Yellowknives, and in particular the chief Akaitcho (c. 1786-1838).<sup>180</sup> This help was invaluable. Akaitcho's people helped Franklin's party with establishing Fort Enterprise and gave them advice on how to proceed north. They also saved the surviving members of the expedition at Fort Enterprise in 1820-

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<sup>176</sup> Cavell, *Tracing the Connected Narrative*, 94; Anthony Brandt, *The Man Who Ate His Boots: Sir John Franklin and the Tragic History of the Northwest Passage* (New York: Random House, 2011), 86–89.

<sup>177</sup> Cavell, *Tracing the Connected Narrative*, 94; William James Mills, *Exploring Polar Frontiers: A - L*, vol. 1 (Santa Barbara California: ABC-CLIO, 2003), 238.

<sup>178</sup> See for example, Theodore J. Karamanski, *Fur Trade and Exploration: Opening the Far Northwest, 1821-1852* (Norman: University of Oklahoma Press, 1988), 19–22.

<sup>179</sup> Irene Ternier Gordon, *People of the Fur Trade: From Native Trappers to Chief Factors* (Victoria: Heritage House Publishing Company, 2011), 125–26.

<sup>180</sup> Keith J. Crowe, *A History of the Original Peoples of Northern Canada*, Revised edition 1991, first published 1974 (Montreal, Kingston, London, Ithaca: McGill-Queen's University Press, 1991), 79.

21.<sup>181</sup> In his narrative Franklin generally spoke positively of Akaitcho, and the narrative contained a coloured portrait of Akaitcho and his son.

The main objective of the expedition was geographical, for “determining the latitudes and longitudes of the Northern Coast of North America, and the trending of that Coast from the Mouth of the Copper-Mine River to the eastern extremity of the Continent”, in the hopes of discovering a route from the Mouth of the Copper-Mine River through to the Pacific.<sup>182</sup> They succeeded in determining the location of the Coppermine River and explored the coast eastwards to adjust the older maps. Linked to this geographical aim of the expedition was the goal of generally amending the geographical knowledge of the area and correcting the older maps with new measurements on latitude and longitude. This required them, due to the nature of the exploration, to travel into unmapped or poorly mapped areas. A key way Franklin’s expedition, and others like it, handled this geographical uncertainty was by consulting Indigenous peoples. For example, Franklin was given advice from Inuk interpreter Augustus (d.1834)<sup>183</sup>:

Upon the map being spread before Augustus, he soon comprehended it, and recognised Chesterfield Inlet to be the ‘opening into which salt water enters at

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<sup>181</sup> Ibid.; June Helm, Teresa S. Carterette, and Nancy Oestreich Lurie, *The People of Denendeh: Ethnohistory of the Indians of Canada’s Northwest Territories* (Iowa City: University of Iowa Press, 2000), 232–33.

<sup>182</sup> John Franklin, *Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21 and 22, with an Appendix on Various Subjects Relating to Science and Natural History Illustrated by Numerous Plates and Maps* (Murray, 1823), xi.

<sup>183</sup> Harriet Gorham, “Tattannoeuck (Augustus),” *The Canadian Encyclopedia*, accessed January 31, 2017, <http://www.thecanadianencyclopedia.ca/en/article/augustus/>.



spring tides, and which receives a river at its upper end.' He termed it Kannæuck Kleenæuck. He had never been farther north himself than Marble Island ... He says, however, that Esquimaux of three different tribes have traded with his countrymen, and that they described themselves as having come across land from a northern sea<sup>184</sup>

Michael Bravo's examination of the relationship between navigation by instrument and navigation by native informant is useful to address here. Bravo suggests that there is a relationship between navigation (space) and ethnography (time) that can be addressed through the concepts of 'ethnographic navigation' and 'geographical gift'. The geographical gift refers to an "ethnographic process of exchange, performance, and translation because the surrender of the ethnogeographical knowledge (more than other ethnosciences) draws attention to its own contour as the source of geographical knowledge".<sup>185</sup> Augustus' explanation of the map, and what is not on the map, can be usefully described as ethnographic navigation. For the area where he himself had not been, Augustus pieced together a conjectured

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<sup>184</sup> Franklin, *Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21 and 22, with an Appendix on Various Subjects Relating to Science and Natural History Illustrated by Numerous Plates and Maps*, 264.

<sup>185</sup> Michael Bravo, "Ethnographic Navigation and the Geographical Gift," in *Geography and Enlightenment*, ed. David N. Livingstone and Charles W. J. Withers (Chicago: University of Chicago Press, 1999), 218.

map based on his knowledge of the tribes he and his countrymen had traded with.<sup>186</sup>

Another example of the process of navigating in the Arctic and the role of Indigenous peoples was recorded in Franklin's narrative for 25 August. Franklin wanted to continue the journey down the Coppermine River, but Akaitcho considered this much too dangerous and strongly advised against this plan. Franklin was upset, and when pushed on the issue, Akaitcho reportedly stated, that "at the former place he had been unacquainted with our slow mode of traveling".<sup>187</sup> Anthony Brandt has referred to a significant difference in the style of exploration between the Royal Navy on one hand, and the Indigenous peoples, fur traders and voyageurs on the other. The Royal Navy was used to expeditions with plenty of supplies, large boats full of food resources. This, however, was a journey where they had to travel light, and carry their supplies on them and in their canoes.<sup>188</sup>

Judging from how the discussion was represented in narrative, Franklin did not appear to take Akaitcho's concerns seriously. Franklin was, at least, not happy to follow it:

Akaitcho appeared to feel hurt, that we should continue to press the matter further, and answered with some warmth: "Well, I have said every thing I can

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<sup>186</sup> Franklin, *Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21 and 22, with an Appendix on Various Subjects Relating to Science and Natural History Illustrated by Numerous Plates and Maps*, 264–65.

<sup>187</sup> *Ibid.*, 225.

<sup>188</sup> The total numbers of people in Franklin's party varied, but they were never a small party, often around 27 people. There were many mouths to feed.

urge, to dissuade you from going on this service, on which, it seems, you wish to sacrifice your own lives, as well as the Indians who might attend you: however, if after all I have said, you are determined to go, some of my young men shall join the party, because it shall not be said that we permitted you to die alone after having brought you hither; but from the moment they embark in the canoes, I and my relatives shall lament them as dead.”<sup>189</sup>

When explorers chose to use Indigenous informants they, Bravo argued, “allowed for their navigation routines to be interrupted by these encounters”.<sup>190</sup> Franklin relied on the assistance of Akaitcho and his people, and Franklin knew he could not afford to alienate them. This exchange shows the reciprocal, although unequal, nature of the contact zone. One way of locating Indigenous voices is through resistance.<sup>191</sup> Akaitcho had very little trust in Franklin’s abilities to judge the danger of the situation. His rejection to accompany Franklin and his insistence that leaving so late in the year was effectively a suicide mission eventually persuaded Franklin to postpone going down the Coppermine River. Instead Franklin sent out Back and Hood in a light canoe to quickly survey the distance and size of the river.

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<sup>189</sup> Franklin, *Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21 and 22, with an Appendix on Various Subjects Relating to Science and Natural History Illustrated by Numerous Plates and Maps*, 225.

<sup>190</sup> Bravo, “Ethnographic Navigation and the Geographical Gift,” 203–4.

<sup>191</sup> Efram Sera-Shriar, “Arctic Observers: Richard King, Monogenism and the Historicisation of Inuit through Travel Narratives,” *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 51 (June 2015).



Drawn by Geo. Wood R.S.  
**PORTRAIT OF AKAITCHO AND HIS SON.**  
Published by Geo. Wood, 47, St. John Street, London.

Figure 13 Akaitcho and his son. Franklin, *Narrative of a Journey to the Shores of the Polar Sea*, 1823, 203<sup>192</sup>



Figure 14 John Franklin. Image credit Wellcome Library, London, image no. 3250i<sup>193</sup>

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<sup>192</sup> Franklin, *Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21 and 22, with an Appendix on Various Subjects Relating to Science and Natural History Illustrated by Numerous Plates and Maps*, 203.

Akaitcho appears again in Franklin's narrative from his second expedition between 1825 and 1827. But during this expedition, Akaitcho was not in position to assist him. War broke out between the Yellowknives and the Dogribs in 1823, and while peace was re-established Akaitcho did not want to return to the area where the war had been for fear of restarting the conflict.<sup>194</sup> Franklin expressed his deepest sympathy for the situation, and wrote

Such sentiments would do honour to any state of civilization, and show that the most refined feelings may animate the most untutored people. Happily we were now so circumstanced as to be able to reward the friendship of these good men by allotting them from our stores a liberal present to the principal persons.<sup>195</sup>

Most of the men that had saved Franklin and his party had been killed. Catherine Lanone has argued that Akaitcho used the war as an excuse, a deflection, to not

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<sup>193</sup> Anon, *Sir John Franklin. Lithograph*, n.d., ICV No 2248 and ICV No 2249, Wellcome Library, R. Burgess, Portraits of doctors & scientists in the Wellcome Institute, London 1973, no. 1035.6.

<sup>194</sup> John Franklin, *Narrative of a Second Expedition to the Shores of the Polar Sea, in the Year 1825, 1826 and 1827: Including an Account of the Progress of a Detachment to the Eastward by John Richardson ; Illustrated by Numerous Plates and Maps. Published by Authority of the Right Honourable the Secretary of State for Colonial Affairs* (Murray, 1828), 9–11; Helm, Carterette, and Lurie, *The People of Denendeh*, 233.

<sup>195</sup> Franklin, *Narrative of a Second Expedition to the Shores of the Polar Sea, in the Year 1825, 1826 and 1827*, 10.

engage with Franklin's party again.<sup>196</sup> However, this seems to underestimate the difficulties the Yellowknives were having. The Yellowknives were a small band, and 34 of his people had been killed in the war with Dogribs, amounting to about one-fifth of the entire Yellowknife people.<sup>197</sup> Moreover, because of the merger between the HBC and NWC the post of Fort Providence where Yellowknives had been trading closed in 1823, and they now had to trade out of Fort Resolution which was already being used by Chipeqyan.<sup>198</sup> Akaitcho becomes a central figure again during Back's overland expedition in search of John Ross' party. In 1836 George Simpson and the HBC in a statement expressed that they in future expeditions would prioritize the use of Indigenous methods for successfully travelling in the Arctic.<sup>199</sup> But we can see hints that individual explorers were aware of the benefits of adopting Indigenous methods, and befriending Indigenous groups during their expeditions. Indigenous knowledge and methods were a central part of shaping the overland expeditions and the perception of the land in Arctic Canada and Greenland.

During Franklin's first expedition, Akaitcho's people and Wentzel accompanied Franklin's party until the Arctic Ocean, where they turned back. The

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<sup>196</sup> Catherine Lanone, "Arctic Romance under a Cloud: Franklin's Second Expedition by Land (1825-7)," in *Arctic Exploration in the Nineteenth Century: Discovering the Northwest Passage*, ed. Frédéric Regard (London, Brookfield: Pickering and Chatto, University of Pittsburgh Press, 2015), 106.

<sup>197</sup> Richard Clarke Davis, *Lobsticks and Stone Cairns: Human Landmarks in the Arctic* (Calgary: University of Calgary Press, 1996), 144; Beryl Gillespie, "Yellowknife," in *Handbook of North American Indians: SubArctic*, ed. William C. Sturtevant (Washington: Government Printing Office, 1978), 286.

<sup>198</sup> Davis, *Lobsticks and Stone Cairns*, 144.

<sup>199</sup> Binnema, *Enlightened Zeal*, 146.

party continued with two Inuit interpreters, Augustus and Junius<sup>200</sup>, and a group of voyageurs. Perhaps because Franklin was now without Akaitcho's advice, the expedition continued beyond what was wise.<sup>201</sup> William Williams, the resident governor of the HBC, had promised to forward provisions in the spring to Fort Enterprise. But the HBC was little help. As Anthony Brandt has written "The HBC was a business, and it was all business."<sup>202</sup> The conflict between HBC and NWC was at a high point, and there were few extra resources to assist an expedition such as Franklin's. When it became clear that no food sources were available, the party divided the first time, with Back and a small group heading out towards Fort Enterprise to bring the supplies they thought would be there. There they found no food. Back continued from the fort to find Akaitcho. With no sight of Back, the party divided again. Richardson believed Teroahauté had murdered a voyageur for cannibalism, and when Hood was found shot dead, Richardson shot Teroahauté. Between murder and cannibalism, Richardson and Hepburn were the only survivors of this division of the party. More people died at Fort Enterprise before Akaitcho's people rescued them. This was the expedition that nicknamed Franklin, 'the man who ate his boots' - of the 22 members of the party, eleven died of starvation, murder and, perhaps, murder for cannibalism.

The expedition had some difficulties fulfilling its broad and ambitious scientific aims. The party had been forced to leave the collected specimens that had

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<sup>200</sup> No known vital dates

<sup>201</sup> The party continued without proper food resources thinking they could hunt game.

<sup>202</sup> Brandt, *The Man Who Ate His Boots*, 89.

not already been sent back with the HBC due to hunger and death on their return journey. Aside from the geographical object of the expedition, the scientific areas of interest involved making general observations related to natural history, and most significantly magnetism, including the phenomenon of the Aurora Borealis and “observations that might be likely to tend to the further development of its cause, and the laws by which it is governed.”<sup>203</sup> Franklin’s narrative included several appendixes with the scientific data they collected, in addition to what was detailed in the body of the text. Richardson, the surgeon to the expedition, carried out detailed meteorological, geological, zoological, and botanical observations. Hood had, before his passing, made several magnetic and meteorological observations. *Narrative of a Journey* included an appendix ‘Notices of the Fishes’ authored by Richardson. This appendix included beautifully coloured illustrations of fish. Richardson stated that his reasons for including this much detail on fish, was to advance the science of Ichthyology. Rather than deciding himself if a fish had been described before, he included details of all the fish he observed. Richardson claimed that with the exception of “one or two instances” all the descriptions were written on the spot. By stating this, Richardson sought to emphasise that his representation of the Arctic animals was free of any type of observational or methodological bias.

The Zoological Appendix was organized by Joseph Sabine, based primarily on Richardson’s observations. Sabine made use of George Cuvier’s (1769-1832) taxonomy. Cuvier had expanded the Linnaean taxonomy through comparative

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<sup>203</sup> Franklin, *Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21 and 22, with an Appendix on Various Subjects Relating to Science and Natural History Illustrated by Numerous Plates and Maps*, xiii.



anatomy. Cuvier emphasized the internal structure and function of animals as the basis for his taxonomy.<sup>204</sup> Sabine emphasized the heroic nature of Richardson's Arctic science, and wrote "neither privations, fatigue, not the inclemency of the Arctic winters retarded his exertions, which have been particularly marked by the extent of the collections of specimens which have been received from, or brought home by, him."<sup>205</sup> In spite of Sabine's flattering words to Richardson, Levere has noted that there was a strained relationship between the two, and Richardson's actual collections were more extensive than what appeared in the narrative.<sup>206</sup>

Richardson published his additional observations during both the first and second Franklin expedition as *Fauna Boreali-Americana, or the Zoology of the Northern Parts of British America*.<sup>207</sup> *Fauna Boreali-Americana* was published with the assistance of illustrator and ornithologist William Swainson (1789-1855) and Reverend William Kirby (1759-1850), and published by John Murray "under the authority of the right honourable the secretary of state for colonial affairs".<sup>208</sup> Swainson completed the drawings of the birds, in addition to organizing the ornithological section. The section on insects was done by Kirby, and William

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<sup>204</sup> Oldroyd, *Thinking about the Earth*, 133–34. Peter J. Bowler, *Life's Splendid Drama: Evolutionary Biology and the Reconstruction of Life's Ancestry, 1860-1940* (Chicago, London: University of Chicago Press, 1996), 45.

<sup>205</sup> Franklin, *Narrative of a Journey to the Shores of the Polar Sea in the Years 1819, 20, 21 and 22, with an Appendix on Various Subjects Relating to Science and Natural History Illustrated by Numerous Plates and Maps*, 647.

<sup>206</sup> Levere, *Science and the Canadian Arctic*, 109–10.

<sup>207</sup> *Ibid.*, 110.

<sup>208</sup> John Richardson, *Fauna Boreali-Americana, Or, The Zoology of the Northern Parts of British America : Containing Descriptions of the Objects of Natural History Collected on the Late Northern Land Expeditions, under Command of Captain Sir John Franklin, R.N.* (Norwich, London: Josiah Fletcher, 1837), fronts piece.

Hooker – Professor of Botany at Glasgow - organized the botanical section. Hooker and Drummond published additional zoological and botanical material from the expedition.<sup>209</sup> The cost of the 28 illustrations in Richardson’s book – in addition to illustrations not published - had been supported with £1000 from the British government.<sup>210</sup> But in contrast with both Graah’s and Ross’ narratives, the majority of the illustrations in Franklin’s 1823 narrative and all of those in Richardson’s book were monochrome.

In the appendix to Franklin’s narrative, Sabine expressed his surprise that so little was known about the fur-bearing animals of the region, when their value in the fur-trade was considered. The economic benefits of exploring and cataloguing the animal and plant life in British North America were not lost on Sabine. Richardson himself noted the incompleteness of the observations made during the expedition, and hoped future observers could correct and add to his work.<sup>211</sup> The lack of structure, or a set methodology, had its downsides. Yet, the difference between Franklin’s first and second expeditions was significant. The second Franklin expedition between 1825 and 1827 was much better prepared for the undertaking. These presentations included considerations that were scientific, political, administrative, and relied heavily on the assistance of Simpson. Richardson described this as follows:

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<sup>209</sup> *Ibid.*, x.

<sup>210</sup> *Ibid.*, ix.

<sup>211</sup> *Ibid.*, xi.

Previous to our setting out on the Second Expedition, Sir John Franklin addressed letters to many of the resident chief factors and traders of the Hudson's Bay Company, requesting their co-operation with our endeavours to procure specimens of Natural History, and their ready acquiescence with his desire was productive of much advantage to us.<sup>212</sup>

Because of their preparations, the second Franklin expedition went much better. In particular, this was due to the cooperation with the newly amalgamated HBC. During the first expedition, the HBC and the NWC were too preoccupied to fully assist the expedition, but by the mid 1820s and onwards the HBC were interested in contributing to the Arctic explorations. As Ted Binnema has argued, "because the search for the Northwest Passage attracted so much official and public interest, it offered ideal ways for the HBC to bolster its reputation among politicians and the public, and for Arctic explorers individually to attain great public renown."<sup>213</sup> Both the HBC and the British government were concerned about the geopolitical situation of the Arctic. The HBC was also interested in the potential financial benefits from the cataloguing of fur bearing animals. Franklin's expeditions set up important precedents for the future. Significantly, it forged important positive links with the Yellowknives, and it gave the Royal Navy much needed experience in undertaking overland expeditions in the Arctic. From this perspective, Franklin's first expedition was not a total disaster. In spite of the high death number of the Coppermine

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<sup>212</sup> Ibid., xviii.

<sup>213</sup> Binnema, *Enlightened Zeal*, 130.

expedition, the search for a North West passage carried on – with Franklin as a key figure.

## **Conclusion**

From Ross' expedition onwards, the experiments and observations made during Arctic explorations were significant types of scientific practice, regardless of the significance in the metropole. What it was not, was a unified scientific practice, or 'Arctic science'. The early British Arctic explorations were shaped by an acute uncertainty, which combined with the Humboldtian ethos of collecting and imperial ambitions created high expectations for what the expeditions could accomplish scientifically. While the ethos was to catalogue and collect as much as possible, the reality was that the results were not particularly systematized. As was the case with Graah's voyage, the process of making geographical knowledge during Franklin's expedition problematizes the diffusion model of knowledge creation and elucidates the process of constructing the Arctic through the narratives. The Arctic, scientific practices in the Arctic, and the character of the Arctic explorer were all constructed simultaneously through the narratives and the reception of their account. The case of John Ross illustrates the detrimental effect the narrative choices could have on the career of explorers. Ross made a mistake with the Croker Mountains, but this was not his main problem. Rather, because of the way Ross constructed his persona with the plurality of hidden voices in the narrative, he became somewhat of an easy target for Sabine's criticisms.

Sabine delegitimized Ross' authority as an observer of Arctic phenomena, both on the basis of the Croker Mountains as well as his supposed plagiarism. As the next chapter shows, Ross did succeed in venturing to the Arctic again, but not as part of a Royal Navy expedition. His nephew and Sabine on the other hand continued to have active careers. While Franklin's first expedition has been treated in detail by other scholars it is still significant to examine, because it – like Ross' expedition – shaped the subsequent expeditions and was continuously referred to throughout the nineteenth century. As the KGH and the HBC had long-standing presences in the Arctic, the uncertainty about what to expect was less marked in the expeditions co-organized with the trading companies, although, as section four showed with Franklin's expeditions, it did not safeguard the explorers from danger and failures. Franklin's second overland expedition in search of the Polar Sea went much better than his first. They were better prepared, and the HBC cooperated, partly because the expedition could help expand the HBC's trading capacity, further their image, and block Russian expansion into the region.<sup>214</sup> Likewise, the KGH had a vested interest in maintaining Danish authority in Greenland. In both section three and four I show how the support of Indigenous informants shaped the trajectories of the expeditions, and by extension, the results they produced.

The first expeditions to the Arctic following the Napoleonic Wars were shaped by uncertainty, and a marked absence of standardized methods for scientific practice in the Arctic, except for a shared Humboldtian ethos. The official instructions to expeditions were an attempt to control the results, and they could, as

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<sup>214</sup> Ibid., 140; Levere, *Science and the Canadian Arctic*, 111–12.

was the case with Ross, be used against the explorer later. However, because of the character of the Arctic explorations, and the uncertainty associated with them, the metropole could not determine the results. Science in the Arctic was shaped not only by the training and abilities of the explorers, but also in interactions with the Indigenous populations and the environment. A unifying feature of all the expeditions examined in this chapter is the disunity of scientific practices, and the close links between the textual and visual representations in the narratives and the perceptions of the Arctic, scientific practices, and the character of the explorer. Scientific practices in the Arctic were not simply transferred in a diffusion model from the elite communities in the metropole, but rather negotiated as their own genre of scientific practice.

## Chapter 2

### Financial opportunities in the Arctic

#### Introduction

The failure of a fourth attempt within these seven years, at the discovery of a North West passage, raises the very interesting question, how long such a course of unpropitious adventure is to be persisted in, and how often the appalling risk of brave men's lives is to be repeated?<sup>1</sup>

- Anon editorial, *The Times*, 19 Oct 1825

The failure of Captain Parry's last voyage, though owing to an accident which might have occurred in a sea less difficult to navigate than the Arctic Ocean, has almost put the public out of love with these exploratory expeditions, and the expense, and risk of life are mentioned as reasons for abandoning them.<sup>2</sup>

- Anon review, *The Literary Chronicle*, 29 Oct 1825

Following William Parry's (1790 – 1855) third unsuccessful expedition in search of a Northwest Passage between 1824 and 1825, several commentators questioned the

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<sup>1</sup> Anon, "The Failure of a Fourth Attempt within These Seven Years, at the Discovery of a North West Passage," *The Times*, October 19, 1825, 2, Gale NewsVault.

<sup>2</sup> Anon, "Literature and Science," *The Literary Chronicle* 6, no. 337 (October 29, 1825): 701.

logic of continuing these pursuits. The sentiment in *The Times* and *The Literary Chronicle* was not unique. Did the Polar ocean actually exist? Was there a passageway through the frozen waters around Baffin Bay? If a route were found, would it even be economically advantageous to use it? While these concerns were not new, they were now being raised with increasing intensity. As was further noted in *The Times*, "It therefore, we say, becomes a serious duty for the King's Government to weigh well the reasonings for and against another of these perilous and expensive trials."<sup>3</sup> However, governments were not the only possible sponsors of Arctic explorations. In the British context, the disillusionment with the search for the Northwest Passage opened up opportunities for other players to take centre stage. Lack of funds for exploratory missions to the Arctic created a similar situation in the Danish context. This chapter examines Arctic expeditions organized outside of the Danish or British navies in the late 1820s and 1830s. By analysing what Arctic science and Arctic explorations looked like when carried out in the nexus between economic, missionary, and scientific concerns, this chapter shows how the prioritization of formal scientific inquiry and use of expensive equipment such as chronometers differed vastly outside of government organized expeditions. Furthermore, it explores the multiple ways science could be utilized to add credibility to Arctic expeditions and narratives, as well as the many strategies available for constructing authoritative narrative formats.

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<sup>3</sup> Anon, "The Failure of a Fourth Attempt within These Seven Years, at the Discovery of a North West Passage," 2.



Whereas the expeditions organized by the British and Danish governments had science as their stated secondary priority, other organizers did not necessarily follow the same model of priority. To elucidate this, sections two, three and four each examine the function, focus, practice and representation of Arctic science in expeditions funded by three different types of organizers: private patrons, trade companies, and religious missions. Section two examines John Ross' second and last expedition to the Arctic. As shown in the previous chapter, Ross suffered the embarrassment of mistakenly determining that there was no passageway through Lancaster Sound in Baffin Bay. In 1818, what was worse, he named what soon after turned out to have been a mirage, 'Croker Mountains'. Together with his falling-out with Barrow, this meant that the Royal Navy was not interested in his service again, and Ross had been unsuccessful in getting command of a second exploration to the Arctic. However, there were other ways of financing an exploratory expedition than through the Royal Navy. Section two looks at Ross' expedition that was privately funded by the gin magnate Felix Booth, and section four examines the first expedition solely organized by HBC, the Dease-Simpson expedition. The Ross and Dease-Simpson expeditions are a study in contrasts. One attempted to optimize Arctic explorations by use of new technologies such as steam and large crews; the other adapted Indigenous methods and scaled down the size of the expeditions.

The differences between the Dease-Simpson and Ross expeditions were also linked to their differing emphasis placed on conducting scientific observations and experiments during the expeditions. As shown in chapter one, while the primary goal of Arctic explorations organized by the British Royal Navy was navigational, the

stated secondary goal was scientific. This changed with the HBC's expedition, as well as with explorations of Greenland in the Danish context. Section three explores a third type of Arctic exploration, namely the Danish settlement period in Greenland. After Graah's 1828-31 expedition, which was examined in the previous chapter, the Danish Crown prioritized settlement over costly exploratory missions. Some shorter reports by Danish settlers in Greenland were published in the Danish periodical press. Section three examines one such short report "Udtog af en dansk dames dagbog, ført i Grønland 1837-1838" written anonymously by a Danish female missionary in Greenland and published as a two-part serial in the journal *Læsefrugter*.<sup>4</sup> The anonymous diary's female authorship adds a unique perspective to a study of Arctic exploration and settlement. This is compared to the narrative *Syv aar i Nordgrønland* (1840) by the pastor Johan Christian Wilhem Funch (b.1802) who spent seven years in Uummannaq.<sup>5</sup> There was a long tradition of missionaries contributing evidentiary resources for ethnographic research, and this was also the main focus of Funch and the missionary wife. Missionaries in Greenland worked closely with the KGH, and the two narratives show the ambivalent relationship between religion, commerce, and science in the Arctic. Their voices and the Arctic they constructed do not comfortably fit the rhetoric of the (male) heroic Arctic

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<sup>4</sup> The title translates to 'Extracts of a Danish lady's diary, kept in Greenland 1837-38', Anon, "Udtog Af En Dansk Dames Dagbog, Ført I Grønland 1837-1838," *Læsefrugter*, February 1839, 231-34; Anon, "Udtog Af En Dansk Dames Dagbog, Ført I Grønland 1837-1838," *Læsefrugter*, January 1839, 105-7.

<sup>5</sup> The title translates to 'Seven years in Northern Greenland', Joh Chr Wilh Funch, *Syv aar i Nordgrønland* (Rabell, 1840).

explorer, and as scientific documents their travel reports differ significantly from those produced by explorers such as Ross and Dease.

When the financial aspects of scientific exploration took centre stage, Arctic science changed in significant ways. Section one provides an overview of the context for Arctic science in the late 1820s and 1830s, and situates this within the historiography of the economic and imperial history of science. While financial concerns undoubtedly played a factor in the organization of the earlier missions to the Arctic, the importance took on another level when a trading company organized the explorations. While the two narratives examined in section four were not part of an exploration organized by the KGH, the trading company still shaped the missionary experience in Greenland. Taken together this chapter explores three different types of exploratory styles and their narratives carried out in the context of increasing disillusion with Arctic explorations for the purpose of finding the Northwest Passage. The disunity of 'Arctic Science' becomes clearly evident in such a comparison. As I showed in chapter one, the type of scientific knowledge produced during Arctic expeditions was not always what the organizers had hoped they would accomplish, and the focus areas were shaped by the skills and interests of the crew. This chapter further expands upon this theme, and shows the multiple ways knowledge about the Arctic could be constructed and presented outside of the Danish and British government sponsored endeavours.

## **1. Arctic disillusionment: Explorations, science and economy 1820-1830**

As in the first part of the nineteenth century, there was a steady interest in Arctic explorations in the late 1820s and 1830s. However, the visions of what could be accomplished by exploring the Arctic had started to change. Whereas the dream of a fast sea route to the Pacific through the archipelago had played a key factor in the British Royal Navy's eagerness to send out expeditions after the end of the Napoleonic Wars, it was slowly but steadily becoming evident that the financial gains of finding the Northwest Passage were just that, a dream. Even if the complete passage could be traced, the cost of using such a route, both financially and in human lives, appeared to outweigh the benefits of its commercial use. With each failed expedition, the question of whether additional expeditions could be justified became more pressing. This section examines the state of Arctic explorations and Arctic science focused on Greenland and the British North American Arctic in the late 1820s and 1830s. It argues that within the context of rising disillusionment with the quest for the Northwest Passage, the abolishment of the Board of Longitude and related Parliamentary rewards, and the changing character of the trading companies in the Arctic, narratives from Arctic expeditions show the tension between economics, exploration, and scientific investigation.

Like the HBC, the KGH enjoyed a monopoly on trade. There is a broad body of historiography on the relationship between colony and metropole, centre-periphery, and the role of economy and trade in imperial expansion. A recent focus section in *Isis* entitled 'The Money Trail: A New Historiography for Networks,

Patronage, and Scientific Careers' has drawn attention to the importance of considering the role of economics when writing history of science, and argues that "following the money trail allows historians of science to cross disciplinary boundaries and explore changes in the *longue durée* while remaining sensitive to historical context. It helps us to avoid the pitfall of hyperprofessionalism, which prevents us from contributing effectively to discussions of the possible futures of scientific culture and remains a very real threat to the coherence of our discipline."<sup>6</sup> The focus on economic factors is however, not without problems. A key aspect of transnational history methodology is the rejection of grand narratives, and tracing people, ideas, and objects outside the boundaries of binaries such as colony-metropole, and centre-periphery, and the nation-state. In writing about the many methods of studying transnational history, Patricia Seed noted that "transnational history has multiplied the foci of research from the state alone to a variety of independent transnational economic actors - individuals, communities, migrants, or organizations that may have played independent roles in the economic growth of a city, state, or region."<sup>7</sup> In relation to maritime history, economic factors such as trade are but part of the analysis, and financial concerns as an analytical focus has been the object of much historical debate.

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<sup>6</sup> Casper Andersen, Jakob Bek-Thomsen, and Peter C. Kjærgaard, "The Money Trail: A New Historiography for Networks, Patronage, and Scientific Careers," *Isis* 103, no. 2 (2012): 310–15.

<sup>7</sup> Bayly et al., "AHR Conversation," 1458.

Fernand Braudel, and the Annales school, famously critiqued Marxist historical interpretations.<sup>8</sup> Braudel's model for writing maritime history based on the Mediterranean, has been reworked, developed and countered in many ways. In particular, the *American Historical Review* special Issue 'Oceans of History' has shown the problems with writing all-encompassing, coherent maritime histories of a given oceanic space, while still emphasizing the usefulness of conceptualizing oceans as a unit for historical analysis.<sup>9</sup> As such, Peregrine Horden and Nicholas Purcell argues, "The agenda for folding the Mediterranean into long-range comparative regional history cannot, then, rely wholly on typologies of harbours or routes, on densities of port cities or maritime confederations, on the penetration of economic networks by valuable seaborne goods, on patterns in the recruitment of seafarers, or on technological innovations in transport."<sup>10</sup> Trading routes connected the oceanic space but exchanges were not limited to commercial goods or economic concerns. For example, Sugata Bose has argued for a historical approach that combines the economic dimensions of interregional integration with geopolitical and military issues, and attention to culture, rather than purely focusing on trade relations. As such, Bose described the Indian Ocean in the imperial context as an interregional arena, something between the local and the global, consisting of "a

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<sup>8</sup> Carlos Antonio Aguirre Rojas, "Between Marx and Braudel: Making History, Knowing History," *Review (Fernand Braudel Center)* 15, no. 2 (1992): 175–219.

<sup>9</sup> Kären Wigen, "Introduction, AHR Forum, Oceans of History," *The American Historical Review* 111, no. 3 (June 1, 2006): 717–21.

<sup>10</sup> P. Horden and N. Purcell, "The Mediterranean And 'the New Thalassology,'" *The American Historical Review* 111, no. 3 (June 1, 2006): 739.

hundred horizons, not one, of many hues and colours."<sup>11</sup> In this way, without reverting to Weberian sociology with its analytical focus on states, bureaucracies, and economic systems, or a Marxist approach that emphasizes economic motives over other drivers in imperialism, it is possible and useful to consider the economic aspects of Arctic explorations, imperialism and scientific thought. Greenland and Denmark were connected by a steady flow of commercial goods, as well as ideas, experiences, and people. The character of the interconnectedness was more established in the case of Greenland and Denmark, as well as in the HBC territories, than between Britain and their explored Arctic territories. While Dease and Simpson were not living permanently in the areas they explored during their expedition, they were settled in HBC territories – Dease more so than Simpson. By contrast, the purpose of the British Royal Navy sponsored expeditions was to explore, and return home to Britain.

The period after Graah's exploratory mission to the East coast of Greenland was a quiet one for Danish expeditions to Greenland. No major expeditions were organized. However, the KGH was busy with trading, and the newspapers brought regular news of the influx of goods for sale at auction. The natural history of Greenland also continued to be classified. After accompanying Graah on his expedition along the east coast of Greenland, the botanist Vahl remained in Greenland until 1836. During this period Vahl undertook botanical research, and contributed to *Flora Danica* as well as to Rink's *Naturhistoriske Bidrag til en*

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<sup>11</sup> Sugata Bose, *A Hundred Horizons: The Indian Ocean in the Age of Global Empire* (Cambridge, Massachusetts: Harvard University Press, 2006), 4.

*Beskrivelse af Grönland* (1857), and his observations were for example recorded in the periodical *Det Kongelige Danske Videnskabernes Selskabs Naturvidenskabelige og Mathematisk Afhandlinger*.<sup>12</sup> After completing his expedition, Graah was part of the KGH's committee between 1831 and 1850, where he played a key role in shaping the policies and practices.

The British Royal Navy was still organizing explorations to the Arctic, and carried out twelve expeditions between 1818 and 1837. The focus of this chapter is on expeditions organized outside of the Royal Navy, and therefore the key Royal Navy expeditions should briefly be highlighted. Following the successful exploration of Lancaster Sound with the ships *HMS Hecla* and *HMS Griper* in 1819, William Edward Parry led an additional two expeditions to the Arctic. Between 1821 and 1823, he was in charge of an expedition in search of the Northwest Passage on board the *HMS Hecla* and *HMS Fury*. On this expedition, Parry went from the Hudson Bay via Frozen Strait to Repulse Bay where he found no passage. They surveyed the coastal line up towards the Gulf of Boothia and Baffin Island, found and named the Fury and Hecla Strait through where there was no entrance into a Northwest Passage. The third expedition between 1824 and 1825 took Parry to Prince Regent Inlet, where he at that point believed the entrance to the Northwest Passage was located. Because there was more ice than they had expected, the party wintered in Prince Regent Inlet in Port Bowen. In the summer the *Fury* was damaged badly and abandoned. Parry left the stores from the *Fury* on Fury Beach, and these reserves

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<sup>12</sup> Hinrich (Henry) Rink, *Naturhistoriske bidrag til en beskrivelse af Grønland* (Kjøbenhavn, L. Kleins bogtrykkeri, 1857).



were later taken advantage of by other explorers, such as Ross in 1829 and McClintock in 1859.

In addition to these three missions in search of a Northwest Passage, Parry also went with James Clark Ross towards the North Pole in 1827, but only reached 82° 45'. Franklin also carried out multiple expeditions in the Arctic. After the expedition that made him famous as 'the man who ate his boots' as discussed in chapter one, Franklin led his second land expedition in 1824 from the Mackenzie River. This coincided with Frederick William Beechey's (1796-1856) expedition to explore the Bering Strait in the *HMS Blossom*. The two parties were supposed to meet, but Franklin had learned from the catastrophes of his previous expedition and turned back in order to ensure the lives of his crew. While all of the Arctic expeditions organized by the Royal Navy had varying levels of success, some surveyed large areas of coastal line, and many had substantial scientific results, none of them achieved the main goal of the expeditions, namely locating the Northwest Passage. Because of this, the Admiralty's eagerness to send out expeditions that characterized the early period examined in this dissertation started to wane in the mid 1820s. One of the key scientific concerns of Arctic explorations, as well as explorations in general, in the earlier period of the nineteenth century had been the development of accurate methods of navigation. In particular, the question of how to determine longitude when at sea had been a central concern. As chapter one showed, Arctic expeditions sponsored by the British Royal Navy brought with them multiple expensive chronometers and other timekeepers to assist in navigations as well as to test the precision of the models by comparing their data.

The Board of Longitude was abolished in 1828, and replaced with a Resident Committee for Scientific Advice for the Admiralty. One of the three key figures involved in the new committee was Sabine; the two others were Thomas Young (1773-1829) and Michael Faraday (1791-1867). The controversies with Ross did not harm Sabine's career. In 1826, just two years before the abolishment of the Board of Longitude, Sabine was awarded £1000 for his pendulum experiments.<sup>13</sup>

The economic practices of the HBC have been well examined.<sup>14</sup> The KGH has received significantly less attention from historians. While a full account of the economic history of either trading company is beyond the scope of this dissertation, bringing to the fore the financial considerations involved in the Dease-Simpson expedition and the Danish settlements in Greenland helps elucidate the differences and similarities to this expedition and those expeditions organized by the Royal Navy. The theme of economics also appears in relation to Ross' expedition, however in a very peculiar way. Ross' expedition was financed privately. When Ross first proposed his plans for an expedition to the Arctic to Booth, his plans were rejected because Booth did not want it to appear as though he was looking to get part of the

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<sup>13</sup> Alexi Baker, "Longitude Essays," *Cambridge Digital Library - Longitude Essays*, accessed March 21, 2016, <http://cudl.lib.cam.ac.uk/view/ES-LON-00023/1>.

<sup>14</sup> See for example: Shepard Krech III, ed., *The SubArctic Fur Trade: Native Social and Economic Adaptations* (UBC Press, 2011); Andra-Warner, *Hudson's Bay Company Adventures*; Harold Adams Innis, *The Fur Trade in Canada: An Introduction to Canadian Economic History*, revised edition with a new introductory essay by Arthur J. Ray (University of Toronto Press, 1999); Edith Burley, *Servants of the Honourable Company: Work, Discipline, and Conflict in the Hudson's Bay Company, 1770-1870* (Toronto, New York, Oxford: Oxford University Press, 1997); Arthur J. Ray and Donald B. Freeman, *"Give Us Good Measure": An Economic Analysis of Relations between the Indians and the Hudson's Bay Company before 1763* (Toronto: University of Toronto Press, 1978).

£20,000 reward for finding the Northwest Passage.<sup>15</sup> It was not until after the reward was abolished that Booth agreed to sponsor the expedition. Why did Booth find it problematic that it may be suggested he was looking to receive a reward designed as an incentive for exactly such an Arctic exploration that Ross was proposing? For the HBC the financial bottom line mattered greatly, so how did this impact the nature of their Arctic exploratory missions? The same question can be asked for the KGH in Greenland. Taken together these concerns show the tension between financial gain, Arctic exploration, and Arctic science in the late 1820s and 1830s.

## **2. Inglorious steam: John Ross' second expedition to the Northwest Passage**

The Victory, fitted as a steamer – the very worst description of a vessel to navigate among ice – and with engines, in the present case, the most miserable that can be imagined – sailed from Woolwich on the 23<sup>rd</sup> of May, 1829<sup>16</sup>

- John Barrow (anon), *The Quarterly Review*, July 1835

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<sup>15</sup> Maurice James Ross, *Polar Pioneers: John Ross and James Clark Ross* (Montreal: McGill-Queen's Press, 1994), 120.

<sup>16</sup> Anon, "ART. I.-1. Narrative of a Second Voyage in Search of a Northwest Passage, and of a Residence in the Arctic Regions, during the Years 1829-30-31-32-33.," *The Quarterly Review* 54, no. 107 (July 1835): 5.

Ross' second voyage in search of a North West Passage between 1829 and 1833 was no more successful in finding a passageway through to the Pacific than his first attempt. But the expedition succeeded in something else, namely the crew's survival in the Arctic for an extended period of time. Ross had not intended for the expedition to last four years, and a key reason for their survival, as for example with Franklin's expeditions examined in the previous chapter, was Ross' adaptation of Indigenous techniques. Aside from surviving, the expedition surveyed large stretches of land and made many scientific observations. Notably, Ross' nephew James Clark Ross discovered the current location of the north magnetic pole. Ross' expedition was also significant because his boat, the *Victory*, had been adapted with a steam engine. This section examines a key aspect of Ross voyage: the use of steam for Arctic explorations. Ross was convinced that the use of steam vessels would be an advantage in the Arctic. Steamboats could make progress against the wind or in calm weather, and push through bay ice - or so Ross had hoped. This was the first attempt at using steam for Arctic navigation, and it failed spectacularly. Ross' published narrative from the expedition initiated a controversy over the use of steam, which affected both the perception of Ross' scientific persona and the future of exploratory missions to the Arctic.<sup>17</sup>

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<sup>17</sup> John Ross and James Clark Ross, *Narrative of a Second Voyage in Search of a North-West Passage, and of a Residence in the Arctic Regions During the Years 1829, 1830, 1831, 1832, 1833* (A.W. Webster, 1835).

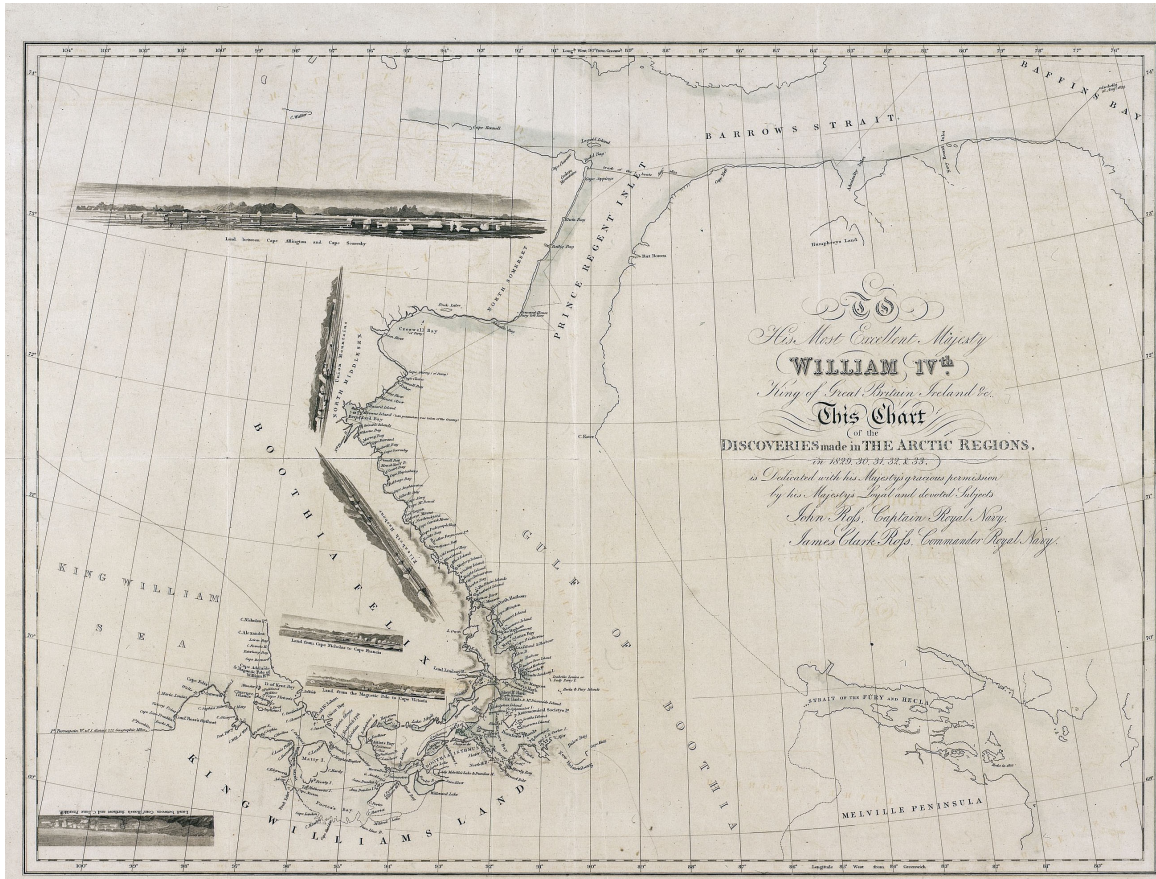


Figure 15. Map showing the discoveries and route of Ross' expedition. Map held by Libraries and Archives Canada, MIKAN no 4143857<sup>18</sup>

<sup>18</sup> John Ross, "To His Most Excellent Majesty William, IVth, King of Great Britain, Ireland, Etc. This Chart of the Discoveries Made in the Arctic Regions, in 1829. 30, 31, 32, & 33, Is Dedicated with His Majesty's Gracious Permission by His Majesty's Loyal and Devoted Subjects John Ross, Captain Royal Navy, James Clark Ross, Commander Royal Navy.," 1834, MIKAN no 4143857, microfiche version NMC8453, Library and Archives Canada.

In April 1827 a letter on the utility of steam navigation was published in *Blackwood's Magazine* signed by "Captains R.N. Edinburgh 1827". The anonymous author of this letter was Ross.<sup>19</sup> The same ideas were put forward in *A Treatise on Navigation by Steam; comprising a History of the Steam Engine, and an Essay towards a System of the Naval Tactics Peculiar to Steam Navigation, as Applicable both to Commerce and Maritime Warfare; including a Comparison of its Advantages as Related to other Systems in the Circumstances of Speed, Safety and Economy, but More Particularly in that of the National Defence* (1828).<sup>20</sup> The treatise was dedicated to and supported by the Lord High Admiral of Great Britain. In it, Ross addressed what he saw as the advantages to introducing steam as well as "the general prejudice against innovations" in the naval fleet.<sup>21</sup> It was understandable, Ross noted, that the Admiralty was reluctant to change what had worked so well. Yet Ross was convinced that the use of steam engines in navigation could revolutionize the British Navy.

While aspects of the expedition itself were successful, Ross' published narrative was less so. It was in many ways a repeat of his narrative from the 1818 expedition, and the glory and praise Ross received upon his return was short-lived. Ross and his crew, except for the three unfortunates who had passed away, returned

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<sup>19</sup> Ross, *Polar Pioneers*, 112.

<sup>20</sup> John Ross, *A Treatise on Navigation by Steam: Comprising a History of the Steam Engine, and an Essay towards a System of the Naval Tactics Peculiar to Steam Navigation, as Applicable Both to Commerce and Maritime Warfare; Including a Comparison of Its Advantages as Related to Other Systems in the Circumstances of Speed, Safety and Economy, but More Particularly in that of the National Defence* (Longman, Rees, Orme, Brown, and Green, 1828).

<sup>21</sup> *Ibid.*, Dedication page.

to England and were celebrated as heroes. Their long absence had generated a significant amount of attention, so much so that a rescue mission led by George Back was planned. Ross was knighted on 24 December 1834, was made an honorary citizen of several cities including London, and received several prizes and medals. He received more than 4000 letters of congratulations.<sup>22</sup> Moreover, a panorama was made that celebrated the expedition and exhibited at Leicester Square.<sup>23</sup> Ross finally received the glory and praise he thought had wrongly been denied him after his 1818 voyage. But Ross was in many ways his own worst enemy, and just like his 1819 narrative, his *Narrative of a Second Voyage* from 1835 tarnished his credibility. The *Narrative of a Second Voyage* was written in a day-to-day journal format that emphasized his first-hand observations and experiences. However, the narrative included many value judgments, from very positive self-evaluations to less flattering portrayals of others. His harsh criticisms were not solely directed at the engineers. The introduction gave a retrospective account of his 1818 expedition that removed all blame of himself in their lack of geographical results. Ross described the boats during the 1818 expedition as unfit for the purpose, and lamented that he had only selected two of the crew members – his nephew and the purser. Ross wrote that he threw “no blame on the late Admiralty on this account”, as it was because the Admiralty had been given poor advice by people hoping for in monetary gains from the expedition. While Ross did not directly attribute responsibility to the Admiralty,

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<sup>22</sup> Ross, *Polar Pioneers*, 194.

<sup>23</sup> A Panorama has been made for Buchan’s 1818 voyage, but not Ross’. The Panorama was called A View of the Continent of Boothia, discovered by Captain Ross. Panoramas were a key way through which expeditions were presented to a broad audience.

he placed it with the Admiralty's lack of knowledge about the Arctic. Unsurprisingly, Barrow was not happy with Ross' narrative.

Barrow's review, published anonymously in *The Quarterly Review* in July 1835, was scathing. Ross' narrative covered 740 pages printed in the quarto format. Barrow thought this was absurdly long for a voyage where "the incidents were few, and the results are next to nothing."<sup>24</sup> Ross should have been more prudent and published a shorter account in the octavo format instead as it was "enough to set the most resolute reader at defiance".<sup>25</sup> Judging from the correspondence between Barrow and Ross, Barrow had originally been at least somewhat pleased with the expedition. In fact, Barrow agreed to pay Ross' crew their salary for the extra years they had been gone. As Ross' expedition had been a private venture and not sent out by the Board of Admiralty, this shows the support they were enjoying in the period after their return. However, the way Barrow anonymously painted the Admiralty's decision to pay the crew was much different:

On the return of the party from this ill-fated expedition, Captain Ross addressed two letters to the Secretary of the Admiralty – the one giving a summary of his proceedings, and the other stating his utter inability to fulfill the engagements he had entered into with his crew, and praying their Lordships to afford him the means of discharging obligations of so sacred a character. That he had no claim whatever on the public for an ill-prepared, ill-

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<sup>24</sup> Anon, "ART. I.-1. Narrative of a Second Voyage in Search of a Northwest Passage, and of a Residence in the Arctic Regions, during the Years 1829-30-31-32-33," 4.

<sup>25</sup> Ibid.



concerted, and (we may add) ill-executed undertaking, wholly of a private nature, will not be denied; and the wealthy individual at whose expense the ship was fitted out, and who made or sanctioned the 'sacred' engagements with the men, was the proper quarter to which application should have been made<sup>26</sup>

While the crew deserved and received a swift decision by the Admiralty to receive pay for the time they were stranded in the Arctic, the review noted, with regards to Ross "no such haste was required".<sup>27</sup> While Ross was awarded £5000, there was "not a syllable, throughout his 740 pages ... to manifest the least feeling of gratitude, or sense of obligation."<sup>28</sup>

Barrow did not shy away from mentioning the debacle over the Croker Mountains in his review. While addressing the quality of Ross' map, which he found lacking, Barrow also questioned the veracity of Ross' description of a group of islands called the Beaufort Islands which "consist of *three*, and three only – and that the other *five* in the book chart are, like the Croker Mountains, non-entities."<sup>29</sup> Barrow continued by addressing Ross' complaints about the way he was treated over the Croker Mountains. Ross' attempt at explaining away his mistake, and make it appear as though he had in fact seen a mountain, just at a different geographical position than what he had believed, was brushed to the side by Barrow who noted

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<sup>26</sup> Ibid., 23.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid., 25.

<sup>29</sup> Ibid., 30.

“When a prudent man gets into a scrape, he suffers the memory thereof silently to die away ... or, which is better, openly avows his error and thus disarm censure.”<sup>30</sup> With this review, Barrow clearly sought to fully destroy any credibility Ross still enjoyed. Ross’ narrative was guilty of “gross misrepresentation”<sup>31</sup>, his persona was that of a “vain and jealous man”<sup>32</sup> and he was “utterly incompetent to conduct an arduous naval enterprise for discovery to a successful termination.”<sup>33</sup> Ross’ expedition and his charts of the coastal line were useless, Barrow thus argued, because Ross was an untrustworthy observer.<sup>34</sup> As Barrow wrote, “The value of hydrography consists entirely in its fidelity.”<sup>35</sup>

Another anonymous review appeared in *The Literary Gazette* that likewise described Ross’ accomplishments and persona in very negative terms. The review went so far as to make a long, and highly sarcastic, list of ways in which it was possible to obtain orders like Ross, ranging from “Always keep yourself in the eye of the public” to “Placard every wall, hole, and corner”.<sup>36</sup> This was also the sentiment in the review that appeared in *Chambers’s Edinburgh Journal*, where it was argued that in spite of all the ‘fuss’ made about the expedition, it “has produced no result of the

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<sup>30</sup> Ibid., 32.

<sup>31</sup> Ibid., 34.

<sup>32</sup> Ibid., 36.

<sup>33</sup> Ibid., 38.

<sup>34</sup> Ibid.

<sup>35</sup> Ibid.

<sup>36</sup> Anon, “Narrative of a Second Voyage in Search of a North-West Passage, and of a Residence in the Arctic Regions, during the Years 1829, 1830, 1831, 1832, 1833, by Sir John Ross, C.B., K.S.A., K.C.S., &c. &c.,” ed. William Jerdan, *The Literary Gazette : A Weekly Journal of Literature, Science, and the Fine Arts*, no. 955 (May 9, 1835): 289.

least value”.<sup>37</sup> About the 1818 expedition, *The Literary Gazette* wrote that “The worthy Captain goes over the grounds of his former voyage; and, as seems to be his usual practice, throws blame about him pretty freely.”<sup>38</sup> Both *The Literary Gazette* and *Chambers’s Edinburgh Journal* chastised Ross for being ungrateful in his narrative, as he had received a large grant from the government in addition to the income from subscriptions to his narrative. His forthcoming narrative had been advertised in public meetings, as a way to promote subscriptions to it.<sup>39</sup> It was in bad taste for Ross to complain about his income from the expedition. A lonely positive review appeared in *the Edinburgh Review*, written anonymously by the natural philosopher Sir David Brewster (1781-1868).<sup>40</sup> Brewster was particularly interested in Arctic exploration, and firmly believed it was a worth-while pursuit. According to Janice Cavell, Brewster’s vision of Arctic exploration was, as were many others’, shaped by a dual influence of Romanticism and Christianity.<sup>41</sup> Brewster praised both Ross and Booth for continuing the search for a Northwest Passage at a time when “The zeal of the Government sank into apathy, and, like children tired of their toys, they broke in pieces and trampled under foot the

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<sup>37</sup> Anon, “Ross’s Expedition.,” ed. William Chambers, *Chambers’s Edinburgh Journal*, Feb. 1832- Dec. 1853, no. 200 (November 28, 1835): 347.

<sup>38</sup> Anon, “Narrative of a Second Voyage in Search of a North-West Passage, and of a Residence in the Arctic Regions, during the Years 1829, 1830, 1831, 1832, 1833, by Sir John Ross, C.B., K.S.A., K.C.S., &c. &c.,” 290.

<sup>39</sup> Anon, “Literary and Scientific Intelligence.,” ed. John Bowyer Nichols, *The Gentleman’s Magazine: And Historical Chronicle*, Jan. 1736-Dec. 1833, November 1833, 449.

<sup>40</sup> Anon, “ART. VII.-Narrative of a Second Voyage in Search of a Northwest Passage, and of a Residence in the Arctic Regions during the Years 1829, 1830, 1831, 1832, 1833.,” ed. Macvey Napier, *The Edinburgh Review*, 1802-1929 61, no. 124 (July 1835): 417-53.

<sup>41</sup> Cavell, *Tracing the Connected Narrative*, 51.

mechanism with which they had been so agreeably occupied.”<sup>42</sup> While Ross had made mistakes, these were insignificant compared to the advances made by his expedition and should be applauded.<sup>43</sup>

The reviews of Ross’ narrative did not comment in detail on the *Victory’s* steam engine, aside from noting that the venture had failed, but this became a particularly controversial subject due to Ross’ blaming the failure of his expedition largely on the manufacturers of the steam engine. The development of steam vessels was transformative for the nature of British Imperial expansion. For example, Daniel Headrick has shown how the introduction of steamboats changed the balance of power in Calcutta when the East India Company “inaugurated a new kind of war: river warfare.”<sup>44</sup> During the Opium war, when Britain did not want more land but trade control in China, steamboats such as the famous boat ‘Nemesis’ were a key tool.<sup>45</sup> But in the late 1820s the use of steam vessels was not an idea readily taken up by the Admiralty for Arctic explorations. As historian Maurice Ross has written, around 1830, “The value of steam vessels to tow ships of war out of harbour in contrary winds was recognized by the lords of the Admiralty, but that is as far as they would go.”<sup>46</sup> Ross proposed his idea of an expedition with a steam vessel to the Admiralty twice, in 1827 and 1828, but was rejected both times.

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<sup>42</sup> Anon, “ART. VII.-Narrative of a Second Voyage in Search of a Northwest Passage, and of a Residence in the Arctic Regions during the Years 1829, 1830, 1831, 1832, 1833.,” 421.

<sup>43</sup> Ibid., 424.

<sup>44</sup> Daniel R. Headrick, *Power over Peoples: Technology, Environments, and Western Imperialism, 1400 to the Present* (Princeton: Princeton University Press, 2012), 187.

<sup>45</sup> Ibid., 202.

<sup>46</sup> Ross, *Polar Pioneers*, 113.

Instead, Ross appealed to Booth whom he described as “an old and intimate friend,” but who at first “declined embarking in what might be deemed, by others, a mere mercantile speculation”.<sup>47</sup> After the board of Longitude was abolished and the Parliamentary reward for the discovery of a North West Passage was repealed, Booth agreed to finance the expedition. Booth also saw the benefits of steam. The business partners and engineers John Ericsson<sup>48</sup> (1803-1889) and John Braithwaite (1797-1870) provided the engine.

The engine used for the *Victory* consisted of two high-pressure boilers, which had recently been patented. It was designed so that it could reuse fresh-water for the boiler, which would both save the fresh water storage, as well as fuel by taking advantage of water condensation.<sup>49</sup> The engine proved problematic. As such, in his narrative Ross was eager to point out that it was this particular engine, and not the principle of steam engines in general that was the problem. He wrote, “In blaming the execution and workmanship of this engine, I must however do justice to the principle, which was judicious, and, under a careful execution, might have rendered this machinery of great service to us on many occasions which occurred in our voyage.”<sup>50</sup> Because of this, Ross went to great lengths to discredit the manufacturers

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<sup>47</sup> Ross and Ross, *Narrative of a Second Voyage in Search of a North-West Passage, and of a Residence in the Arctic Regions During the Years 1829, 1830, 1831, 1832, 1833*, 2.

<sup>48</sup> His last name was given both as Ericsson and Erickson depending on the source

<sup>49</sup> Olav Thulesius, *The Man Who Made the Monitor: A Biography of John Ericsson, Naval Engineer* (Jefferson, North Carolina, London: McFarland & Company, 2007), 22.

<sup>50</sup> Ross and Ross, *Narrative of a Second Voyage in Search of a North-West Passage, and of a Residence in the Arctic Regions During the Years 1829, 1830, 1831, 1832, 1833*, 10–11.

of the engine in his narrative. The dispute between the two engineers and Ross was so bitter that Booth supposedly stopped Ross and Ericsson from having a duel.<sup>51</sup> The same year that Ross' narrative was published, Braithwaite published *Supplement to Captain Sir John Ross's Narrative of a Second Voyage in the Victory, in Search of a North-west containing the Suppressed Facts Necessary to a Proper Understanding of the Causes of the Failure of the Steam Machinery of the Victory, and a Just Appreciation of Captain Sir John Ross's Character as an Officer and a Man of Science* (1835). As the long title indicates, the one-shilling pamphlet was published as a rejection of Ross' attempt at placing the blame for the failures of his expeditions on Braithwaite and Ericsson. In his narrative, Ross described the steps they took to amend the engine, which he lamented did little to better it. Ross placed the blame for the engine's malfunction squarely on "the constructors of our execrable machinery, Messr. Braithwaite and Erickson"<sup>52</sup> The boilers leaked, and when they were leaking the forcing pump had to be constantly manned to keep the engine going,<sup>53</sup> and "was to be a cause of hourly torment and vexation to us for many weeks, was at length to lead to the abandonment of one of our chief homes, in addition to all the waste of time and money, consequent on the grossly negligent conduct of our engine-makers."<sup>54</sup> According to his narrative, they had early on in the expedition, attempted to modify "the evil inflicted on us by the discreditable conduct

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<sup>51</sup> Ross, *Polar Pioneers*, 188.

<sup>52</sup> Ross and Ross, *Narrative of a Second Voyage in Search of a North-West Passage, and of a Residence in the Arctic Regions During the Years 1829, 1830, 1831, 1832, 1833*, 7.

<sup>53</sup> Ibid.

<sup>54</sup> Ibid., 6.

of our engine manufactures.”<sup>55</sup> The message of Ross’ narrative was that, if only the engine had been made better, the problems with the expedition could have largely avoided.

When Ross and Booth commissioned the engine from Braithwaite and Ericsson they did not tell them the real purpose of the ship. Both Ross and Booth wanted to keep their preparations for the venture a secret; Ross because he feared getting scooped, and Booth because he did not want to be revealed as the patron for the expedition. The engine had therefore not been designed with the explicit purpose of an Arctic exploration, and as such it broke down. This was one of the key arguments against Ross’ accusations of incompetency in Braithwaite’s pamphlet. According to Braithwaite, Ross had let them believe the steam vessel was intended as an experiment, for war purposes. They readily agreed to provide the engine, as Braithwaite noted, “I reasonably anticipated that through him we had as good an opportunity as could be desired of practically testing the worth of that improvement of which he thought so highly.”<sup>56</sup> Braithwaite emphasized the experimental nature of the engine several times, as “in *experimenting*, complication is seldom regarded, since the intention is merely to ascertain facts and results for guidance in

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<sup>55</sup> Ibid., 10.

<sup>56</sup> John Braithwaite, *Supplement to Captain Sir John Ross’s Narrative of a Second Voyage in the Victory, in Search of a North-West Passage. Containing the Suppressed Facts Necessary to a Proper Understanding of the Causes of the Failure of the Steam Machinery of the Victory, and a Just Appreciation of Captain Sir John Ross’s Character as an Officer and a Man of Science* (Strand: Chapman & Hall, 1835), 2.

practice”.<sup>57</sup> The engine had never been intended, Braithwaite argued, for use in an exploratory mission in the Arctic, but as an experimental steam-vessel.

Ross responded to Braithwaite in a short eight-page *Explanation and Answers to Mr John Braithwaite's Supplement to Captain Sir John Ross's Narrative of a Second Voyage in the Victory, in Search of a North-West Passage* (1835). While Braithwaite's pamphlet had been inexpensive, Ross' was even more so as it could be obtained free of charge from his publication office.<sup>58</sup> According to Ross, Braithwaite had not characterized the steam engine as experimental, but as “*fully tried, and fit for any service*”.<sup>59</sup> The secret of the expedition, Ross argued, was kept at Booth's request, but there should have been no problems with the engine had it been made to the high standard that Braithwaite and Ericsson claimed it had been. According to Ross, Braithwaite had even made the boilers out of iron, and not copper as had originally been agreed upon. According to historian Maurice Ross, no response from Braithwaite on this very serious charge has been found.<sup>60</sup> When Ross' expedition passed through Baffin Bay and reached Fury Beach on August 13 1829, they found Parry's abandoned ship and supplies. By the end of September, Ross “considered that all hope of making any farther progress this season was at an end.”<sup>61</sup> Ross

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<sup>57</sup> Ibid., 3.

<sup>58</sup> Ross, *Polar Pioneers*, 189.

<sup>59</sup> John Ross, *Explanation and Answer to Mr. John Braithwaite's Supplement to Captain Sir John Ross's Narrative of a Second Voyage in the Victory, in Search of a Northwest Passage* (London: A.W. Webster, 1835), 2.

<sup>60</sup> Ross, *Polar Pioneers*, 189.

<sup>61</sup> Ross and Ross, *Narrative of a Second Voyage in Search of a North-West Passage, and of a Residence in the Arctic Regions During the Years 1829, 1830, 1831, 1832, 1833*, 121.



decided to dismantle the broken engine, and take it out of the *Victory* to open up space inside the vessel:

But thus rendering us no service, the engine was not merely useless: it was a serious encumbrance; since it occupied, with its fuel, two-thirds of our tonnage, in weight and measurement. ... As the engine, moreover, had been considered the essential moving power in the original arrangement of the vessel, the masting, and sailing had been reduced accordingly, since it was presumed that the sails would only be required in stormy weather; so that, in fact, she was almost a jury rigged ship.<sup>62</sup>

The engine that Ross had thought could help them push through ice was thus discarded. In *A Treatise on Navigation by Steam* Ross had noted that all navigators would need to be familiar with the science of steam when steam ships were introduced. It is clear from Ross's descriptions of steam engines in his treatise that he considered himself knowledgeable of the subject. Braithwaite was not convinced of Ross' expertise, and sarcastically referred to the author of *A Treatise on Navigation by Steam* as the only one "who will not admit that there is no difference whatever between the common paddle-wheel and the one to which Captain Ross attributed properties at variance with the most simple physical laws – laws well understood even by those who had no pretensions to be thought scientific."<sup>63</sup> The

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<sup>62</sup> Ibid., 124.

<sup>63</sup> Ross, *A Treatise on Navigation by Steam*, 8.

many problems Ross had with the *Victory*, in particular with the paddle-wheels, Braithwaite argued, were due to Ross' own errors in calculation of the flotation of the boat and because he kept the object of the *Victory* a secret. Ross countered this by arguing that the paddle-wheels were in fact immersed properly, and before the boiler broke the *Victory* sailed at a rate of six miles per hour. The mistakes in calculations all belonged to Braithwaite and Ericsson.<sup>64</sup> According to Ross, Braithwaite had explained the want of speed en route to Woolwich with the deep immersion of the paddle-wheels. When Ross had suggested to move the storages on board the hulk, Braithwaite had said no, "undoubtedly because it might lead to my withholding the last payment."<sup>65</sup> Braithwaite concluded his pamphlet by appealing to the public to pass judgment on Ross, and the credibility of Ross' words:

I confidently appeal to the whole world whether Captain Ross has not calumniated the makers of his engines in ascribing to them the failure of his steam-ship; and whether it be not the fact that Captain Ross has slandered them, in order to divert attention from his own errors, his own blunders, and from the disgraceful ignorance and incompetency in which all these errors and blunders originated.<sup>66</sup>

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<sup>64</sup> Ibid., 4.

<sup>65</sup> Ibid., 5.

<sup>66</sup> Braithwaite, *Supplement to Captain Sir John Ross's Narrative of a Second Voyage in the Victory, in Search of a North-West Passage. Containing the Suppressed Facts Necessary to a Proper Understanding of the Causes of the Failure of the Steam Machinery of the Victory, and a Just Appreciation of Captain Sir John Ross's Character as an Officer and a Man of Science*, 18.

In this way, Braithwaite's criticisms extended from addressing Ross' characterization of the steam engine, to Ross' scientific credibility like the reviews of his narrative had done before it. In contrast with the reviews of Ross' narrative, the notices of Braithwaite's response to Ross was described in positive terms. The *Monthly Magazine* noted that it carried "conviction with its undoubted veracity".<sup>67</sup> *The Literary Gazette* agreed with Braithwaite that it was fully the fault of Ross, and Ross alone, that the steamer failed.<sup>68</sup>

As an expedition organized outside the remit of the Admiralty, Ross' expedition shows the tension between surveying for the sake of scientific advancement and national glory on the one hand, and financial remuneration on the other. Ross' request for additional personal economic rewards played a part in the swift destruction of his rebuilt public reputation. In addition, reviewers chastised his and his publisher's strategies for maximizing the financial gain from his narrative. Ross had attempted to prioritize science the same way as the British Royal Navy had done during their expeditions, but Ross also had to earn a living. Because his venture was privately funded, it relied on the good-will of the Admiralty

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<sup>67</sup> John Braithwaite, "A Supplement to Captain Sir John Ross's Narrative of the Second Voyage in the Victory, in Search of a North-West Passage; Containing the Suppressed Facts Necessary to a Proper Understanding of the Causes of the Failure of the Steam Machinery of the Victory, &c. &c.," *Monthly Magazine, Or, British Register, Feb. 1800-June 1836* 20, no. 120 (December 1835): 565.

<sup>68</sup> Anon, "Supplement to Captain Sir John Ross's Narrative of a Second Voyage in the Victory, in Search of a North-West Passage, Containing the Suppressed Facts Necessary to a Proper Understanding of the Causes of the Failure of the Steam Machinery of the Victory, and a Just Appreciation of Captain Sir John Ross's Character as an Officer and a Man," ed. William Jerdan, *The Literary Gazette : A Weekly Journal of Literature, Science, and the Fine Arts*, no. 981 (November 7, 1835): 712.

in paying their crew for the additional years they spent stuck in the Arctic, and Ross also requested additional financial remuneration for himself. Ross' focus on his financial situation, as well as his continued rejection of blame both with regards to the Croker Mountains incident and the failure of the *Victory's* steam engine, was incompatible with the perceived persona of a heroic Arctic explorer. It is clear from the reception of Ross' narrative that the perception at this point was that Arctic exploration was to be done for geographical, scientific, and national advancement, not for financial gain or pride. The tension between the way Ross attempted to portray himself and how he was actually perceived, reveal the delicate construction of scientific authority, objectivity and trustworthiness in the Arctic. Ross had been unable to secure the command of another expedition with the Royal Navy, and the privately funded expedition was an opportunity for Ross to reinstate himself as a heroic Arctic explorer. Initially, the response to the expedition was very positive. His published narrative, however, quickly destroyed this image in much the same way as it had done in 1818.

### **3. Missionary narratives in Greenland**

The issues of trustworthiness and establishing oneself as an authoritative observer of the Arctic extended beyond issues of economics. This section examines the production of Arctic science within missionary literature. Numerous scientific papers on the natural history of Greenland were published in Denmark in the 1830s. There was also another type of account of Greenland, namely narratives by Danes

who had settled in Greenland for longer periods of time. These were not exploratory expeditions, although the individuals may have undertaken some travel and some exploration. Just as with Ross' privately funded expedition, there were no 'official orders', no mission statement, and nothing that had to be accomplished in the same way as in the case of expeditions sponsored by the governmental bodies. This section examines two accounts by Danish settlers in Greenland: a short serial publication by an anonymous missionary wife entitled 'Udtog af en dansk dames dagbog, ført i Grønland 1837-1838', and a narrative published in book-format by the theologian and missionary Johan Christian Wilhelm Funch (1801/1802-1867) entitled *Syv Aar i Nordgrønland*. As both were in Greenland as part of the Christian mission, their narratives also shed light on the relationship between Christianity, science, and imperial expansion. In particular, missionary reports were a key evidentiary resource for ethnography in this period.<sup>69</sup> As such, narratives from missionaries who settled in a semi-permanent way in Greenland offer a different window into life and science in the Arctic.

There is a large body of scholarship on the relationship between imperial expansion, trade, science and technology, and missionary activities. Significantly, Winfried Baumgart has pointed to the problematic relationship between Christianity, commerce, and imperial expansion.<sup>70</sup> Commercial activities could stifle

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<sup>69</sup> See for example: Sera-Shriar, *The Making of British Anthropology, 1813–1871*, 187; Sujit Sivasundaram, *Nature and the Godly Empire: Science and Evangelical Mission in the Pacific, 1795-1850* (Cambridge: Cambridge University Press, 2005), 185–86.

<sup>70</sup> Winfried Baumgart, *Imperialism: The Idea and Reality of British and French Colonial Expansion* (Oxford: Oxford University Press, 1982).



Figure 16. Funch resided in Uumannaq, on the western coast of Greenland. Map originally produced by the U.S. Central Intelligence Agency, my edits<sup>71</sup>

<sup>71</sup> U.S. Central Intelligence Agency, "Arctic Region."

missionary goals, and vice versa.<sup>72</sup> From this perspective, missionary activity was also a form of colonialism in itself, distinct from but functioning in close relation with geopolitical annexation. Similarly, Catherine Hall has emphasized that the relationship between missionaries and the Empire was not straightforward.<sup>73</sup> While Hall's focus is on the role of nonconformists, particularly the Baptist missionary movement in the British imperial involvement in Jamaica, her analytical points can usefully be extended to a study of Danish missionaries in Greenland. Hall argues that missionaries and planters in Jamaica were united in the belief that British culture was superior to the Jamaican. This is linked to the civilizing mission, the view that there was a "responsibility to civilise others, to win 'heathens' for Christ".<sup>74</sup> The civilizing mission was not unique to the British Empire. It was a general feature of European powers. As Michael Mann has noted "the concept of the *mission civilisatrice* was used above all for the self-legitimation of colonial rule."<sup>75</sup>

The majority of Funch's *Syv Aar i Nordgrönland* was concerned with the way of life in Greenland, ethnographic observations of Inuit, the KGH, the Christian mission, and the nature of Greenland including the difference between north and south-east Greenland. The narrative was divided into 38 smaller sections, covering a total of 128 pages. There was no appendix. Funch was born in Copenhagen to Christiane

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<sup>72</sup> Baumgart, *Imperialism: The Idea and Reality of British and French Colonial Expansion*, 16.

<sup>73</sup> Catherine Hall, *Civilising Subjects: Metropole and Colony in the English Imagination 1830-1867* (Chicago: University of Chicago Press, 2002).

<sup>74</sup> *Ibid.*, 21.

<sup>75</sup> Harald Fischer-Tiné and Michael Mann, eds., *Colonialism as Civilizing Mission: Cultural Ideology in British India* (London: Anthem Press, 2004), 4.

Magdalene Arendrup<sup>76</sup> and army officer and Commander on Bornholm Johan Christian Funch<sup>77</sup>. Orphaned at nine years of age, he was taken in by a major in the army and his wife. He attended Herlufsholms Skole, and later graduated from Copenhagen University with a degree in Theology in 1824. Funch moved with his wife Isidora Sophie Funch (b.1806) to Greenland in 1830.<sup>78</sup> They resided in the Missionhouse in Uummanaq, in the colony Umanak (Omenak), until 1837 when he moved back to Denmark to open a school.<sup>79</sup> Soon after moving back to Denmark he became a pastor again and passed away in Sorø in 1867.

During the 1830s, British missionaries functioned within a universal family narrative.<sup>80</sup> The metaphor of a universal family included the belief that racial differences could be explained by culture and climate, as well as the belief in a patriarchal family order with white men ruling the metaphorical family. In this narrative Indigenous peoples were children, and the white man the father. Funch's narrative was deeply embedded in the rhetoric of the civilizing mission. These views permeated Funch's descriptions of everything related to Greenland. Funch

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<sup>76</sup> No known vital dates

<sup>77</sup> No known vital dates

<sup>78</sup> Anon, "Døde," *Den Til Forsendelse Med de Kongelige Brevposter Privilegerede Berlingske Politiske Og Avertissementstidende*, March 12, 1867, 7, Statsbiblioteket, Aarhus Universitet.

<sup>79</sup> Thomas Hansen Erslew, *Almindeligt forfatter-lexicon for kongeriget Danmark med tilhørende bilande, fra 1814 til 1840: eller Fortegnelse over de sammesteds fødte forfattere og forfatterinder, som levede ved begyndelsen af aaret 1814, eller siden ere fødte, med anførelse af deres vigtigste levnets-omstændigheder og af deres trykte arbejder; samt over de i hertugdømmerne og i udlandet fødte forfattere, som i bemeldte tidsrum have opholdt sig i Danmark og der udgivet skrifter* (Copenhagen: Forlagsforeningens forlag, 1843), 474–75; *Selskabet for Danmarks kirkehistorie (Denmark), Kirkehistoriske samlinger* (Akademisk Forlag, 1911), 51.

<sup>80</sup> Hall, *Civilising Subjects*.



considered Indigenous Greenlanders to be child-like and as such in need of parents to help and guide them. The ‘parents’ were, of course, the KGH and the Christian mission under the guidance of King Christian VIII to whom the narrative was dedicated.

Throughout the narrative Funch described Inuit as happy children, who had been better off since the KGH and the Christian mission had arrived in Greenland. In the section on trade (*Handelen*) Funch’s narrative touched upon one of the darkest aspects of Danish colonialism in Greenland, namely the practice of taking Inuit children away from their families and raising them in Denmark, under state guardianship (*Formynderskab*).<sup>81</sup> These children were to learn Danish and become educated in various trades. While it may appear surprising that Funch would discuss this as part of his account of the KGH, his views of the trade in Greenland, as well as the Christian civilizing mission, were shaped by the idea that Inuit were unable to take care of themselves. As he argued,

Anyone who cares for Greenland and knows about the conditions in the country, would certainly wish that as long as its inhabitants are children, that state guardianship must remain. When Greenlanders at some point reach the age of majority, then let them enjoy all the benefits of their country, as they will then understand how to use them.<sup>82</sup>

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<sup>81</sup> Funch, *Syv aar i Nordgrönland*, 52.

<sup>82</sup> Translated from the original Danish *Enhver, der har Grønland kjær, og kjender Omstændighederne i Landet, ønsker vistnok, at saalænge Landet Indbyggere ere Børn, maa Formynderskabet vedblive. Have Grønlænderne engang opnaaet den*

In this way, Funch's description of the people, nature and way of life in Greenland was embedded in the rhetoric of the civilizing mission. The exploitative practice of removing Inuit children from their families and placing them in homes in Denmark continued through the twentieth century. Tine Bryld famously collected the stories from 22 children that were brought to Denmark in 1951, which gives a chilling insight into the relationship between Denmark and Greenland.<sup>83</sup> This was done "with the best intentions", as Bryld writes.<sup>84</sup> This practice, both in the 1830s and 1950s, was rooted in ideas of social improvement and civilization projects. The focus on children was not unique to Danish imperialism in Greenland, but has parallels throughout the British Empire, as well as post-confederation Canada.<sup>85</sup>

Children and education played a key role in colonial and missionary projects.

As Karen Vallgård has written, "In the context of colonial and missionary

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myndige Alder, da lad dem og selv nyde alle Fordele af deres Land, saa ville de forstaa at anvende dem. Ibid.

<sup>83</sup> Translated from original Danish "i den bedste mening" Tine Bryld, *I den bedste mening* (Copenhagen: Gyldendal, 2010).

<sup>84</sup> Ibid., Title page.

<sup>85</sup> See for example: Marina Morrow, Olena Hankivsky, and Colleen Varcoe, eds., *Women's Health in Canada: Critical Perspectives on Theory and Policy* (Toronto: University of Toronto Press, 2008); Alvyn Austin and Jamie S. Scott, eds., *Canadian Missionaries, Indigenous Peoples: Representing Religion at Home and Abroad* (University of Toronto Press, 2005); Truth and Reconciliation Commission of Canada, *Canada's Residential Schools: The Métis Experience: The Final Report of the Truth and Reconciliation Commission of Canada*, McGill-Queen's Native and Northern Series 83 (Montreal, Kingston, London, Chicago: McGill-Queen's University Press, 2016). Another comparison the so called 'home children' of early 20<sup>th</sup> century Canada. These were young people from disadvantaged backgrounds who were sent to Canada to work on farms. See for example: Phyllis Harrison, *The Home Children: Their Personal Stories* (Winnipeg: Watson and Dwyer, 1979); Daniel Gorman, *Imperial Citizenship: Empire and the Question of Belonging* (Manchester and New York: Manchester University Press, 2010), 186.

educational projects, however, education was meant to do more than reproduce the existing order of society. It was generally designed to shape the children to become different from their parents and, thereby, to transform the social organization of society.”<sup>86</sup> Missionaries had a significant part in the civilizing projects aimed at shaping the identity of children into less Indigenous and more European subjects of the Empire. From this perspective, accounts such as that of Funch are noteworthy in two ways. Firstly, the narrative offers a window into the practices of missionaries and their attitudes towards the Indigenous members of their congregation. Secondly, it also functioned as evidence for its contemporary audience. Readers of Funch’s narrative were informed of the beneficial effects of the missionaries’ presences, as well as that of the KGH, on the lives and morality of Inuit. Nineteenth-century travel reports were utilized as first-hand accounts of Indigenous peoples for ethnographic research.<sup>87</sup> In the preface, Funch noted that while Greenland was part of Denmark, most Danes knew very little about Greenland. It was therefore the stated intention of the narrative to counter and correct the false ideas many Danes held about Greenland. According to Funch, while it was possible to live a good life in Greenland, it was generally characterized by such hardship that could not easily be comprehended in Denmark. Funch emphasised that the narrative was a strictly personal account, and while much could have changed in the three years between

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<sup>86</sup> Karen Vallgård, *Imperial Childhoods and Christian Mission: Education and Emotions in South India and Denmark* (Basingstoke: Palgrave Macmillan, 2014).

<sup>87</sup> See for example: Sera-Shriar, “Arctic Observers.”

his return to Denmark and the publication of his book, he had only recorded that which he had observed first-hand.<sup>88</sup>

Whereas the Arctic explorations were primarily male - not including the female Indigenous peoples encountered or employed for assistance and company during the expeditions - settlers in the Arctic were both male and female. Mary Louise Pratt has argued that there were few female travel writers because 'seeing' was equated with a desire to possess, which was not the female's space. As such Pratt notes that "While women writers were authorized to produce novels, their access to travel writing seems to have remained even more limited than their access to travel itself, at least when it came to leaving Europe."<sup>89</sup> Similarly, Sherrill Grace has emphasised the masculine paradigm of Arctic narratives, and argued that "Human agency (and with it power, freedom, individuality) has been constructed in northern narratives, and elsewhere, as exclusively male, aggressively heterosexual, and masculinist."<sup>90</sup> Yet, as Pratt's analysis further shows 'imperial eyes' could be both male and female travellers, which afforded different perspectives on the land and peoples encountered. While rare, textual accounts of the Arctic written by female authors exist. In 1839 a two-part serial entitled 'Udtog af en dansk dames dagbog, ført i Grønland 1837-1838'<sup>91</sup> was published in the Danish journal

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<sup>88</sup> Funch, *Syv aar i Nordgrønland*, Fortale.

<sup>89</sup> Pratt, *Imperial Eyes*, 106.

<sup>90</sup> Sherrill E. Grace, "Gendering Northern Narrative," in *Echoing Silence: Essays on Arctic Narrative*, ed. John George Moss, Canadian Electronic Library. Books Collection. Re-Appraisals, Canadian Writers. 20 (Ottawa: University of Ottawa Press, 1997), 166.

<sup>91</sup> Translation: Extracts from a Danish lady's diary, kept in Greenland 1837-1838

*Læsefrugter*. The diary was published anonymously, and without reference to the author's location in Greenland.

Recorded in a day-by-day format, the narrative provides a small window into life in the Arctic for women settlers. The author recorded details such as the weather and temperature, the native language, religious services, food resources, and trade. In contrast with Funch's account, the missionary wife observed the Arctic almost exclusively from her house and the church. Her recorded interactions with Inuit were limited to when visitors came to trade, or in the context of religious service. Pratt has noted that a key difference between women and male authors of travel writing is that in women's narratives "the sights she sees are neither welcome nor innocent."<sup>92</sup> Similarly to Pratt's observation, the missionary wife described her encounters with Inuit in terms of fear and uneasiness. In one instance, an unnamed man came to her home while her husband was gone to request a prayer book with songs. She was unfamiliar with the language he spoke, and so he began to sing parts of a psalm in the hopes of making him understood. This, she described, made her "very fearful, and thought that he was insane" until she recognized the tune of the song.<sup>93</sup>

Like Funch, the missionary wife's narrative was embedded in the rhetoric of the civilizing mission. She described Inuit as child-like, unable to take care of themselves or plan for future. When the hunting season failed, it was "sad for the

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<sup>92</sup> Pratt, *Imperial Eyes*, 103.

<sup>93</sup> Translated from the original Danish, "helt forfærdet, og troede, han var afsindig" Anon, "Udtog Af En Dansk Dames Dagbog, Først I Grønland 1837-1838," January 1839, 105.

Greenlanders”, but it was also sad for her, as her starving community members visited them to trade small items for food and coffee.<sup>94</sup> The lack of sympathy for the plight of Inuit during a time of food-shortage was linked to her disdain for what she perceived as their unwillingness to save and plan for the future. By contrast, she described the modesty of her household economy and how she had saved and treasured a small bag of potatoes imported from Denmark. As Colin Coates has shown with the nineteenth century St Lawrence Valley in Lower Canada, imperial visions of the land were conceptualized in old-world terms.<sup>95</sup> In her short narrative, the missionary wife established her household as an extension of the home in Denmark, as a contrast to the practices of Indigenous families. While the description indicated that she was either unwilling or unhappy to share her food supply, it also appears that the missionary couple may have been at a shortage of food themselves. This was related to the trading company. Funch’s narrative more so than the missionary wife’s reveals that the relationship between missionaries and the KGH was an ambivalent one.

The KGH were obliged to support missionaries with food supplies, boats for transportation and maintenance of mission houses. However, the extent to which the traders working for the KGH had to provide these facilities was contingent on the availability of these resources, and the availability was left to the discretion of the traders:

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<sup>94</sup> Translated from the original Danish, ”sørgeligt for Grønlænderne”Ibid., 106.

<sup>95</sup> Coates, “Like ‘The Thames towards Putney’: The Appropriation of Landscape in Lower Canada.”

It is easy to recognise from this, that the missionary enters a dependent relationship with the merchant; if he demands food on the account ... they would only have to answer that they did not have any. If he demands a vessel it could easily be in use, and there is thus many ways for the merchant to harass the missionary.<sup>96</sup>

The KGH enjoyed a trade monopoly in Greenland, but missionaries were also allowed to sell a limited amount of items. Funch advised other missionaries to tread carefully when engaging in trade on their own, as their financial gain necessarily would mean a cut in that of the KGH traders, and could upset the relationship between missionaries and the traders.<sup>97</sup> This adds another dimension to the tension between economics and Arctic exploration. Funch warned other missionaries to not appear greedy, as this could ruin their relationship with the KGH. Moreover, too much interest in personal financial advancement ran counter to the established persona of the missionary. There are clear parallels to how the reception of Ross' narrative reveals that appearing too interested in financial gain could destroy any attempt at constructing oneself as an objective and trustworthy observer of the Arctic. In particular when Arctic explorations were not government sponsored, costs were a key challenge. Explorers and settlers required money to finance their

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<sup>96</sup> Translated from the Danish: "Det indsees let heraf, at Missionæren kommer I et Afhængighedsforhold til Kjøbmanden; thi forlanger han Proviant Paa Regning ... behøver henne blot at svare, at der intet er. Forlanges Fartøi, kan det jo let være i Brug, og saaledes er der mangfoldige Maader, hvorpaa Kjøbmanden kan chicanere Missionæren" Funch, *Syv aar i Nordgrönland*, 37–38.

<sup>97</sup> *Ibid.*, 38.

expeditions, but could not be too open about actually needing it. Both Funch and the missionary wife emphasised their frugality, and this financial disinterest was part of the way they established themselves as authoritative voices on living conditions in Greenland.

Throughout the narrative, Funch described the appearance of the natural environment. However, in comparison with, for example, Graah's narrative, which was discussed in chapter one, Funch's descriptions appear to have been limited by his lack of training in natural history. Although Funch collected natural history specimens during his stay in Greenland, the narrative did not contain a list or details of them. The narrative was also characterized by the absence of reference to previous travellers to Greenland, with the exception of Graah. The sections 'Naturbeskaffenhed'<sup>98</sup> stands out as Funch here provided a more detailed description of his observations related to natural history, including the Latin names for a few of the plants and animals described. This type of detail was for the most part absent from the rest of the narrative. Funch's stated object in writing the narrative was to provide a really useful account of what life was like in Greenland, including a description of the environment particularly the area around Umanak. The section 'Naturbeskaffenhed' thus centered on issues such as birds of prey, dangerous wildlife, farm animals, sources of fuel, and the unsuitability of the soil for farming.<sup>99</sup>

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<sup>98</sup> an awkward term that approximately translates to 'quality of nature', similar in scope to natural history

<sup>99</sup> Funch, *Syv aar i Nordgrönland*, 53–56.



A key concern for settlers was getting access to fuel for use in heating and cooking. Funch's description of the available fuel reveals the close link between his descriptions of natural phenomena, and economic concerns. While there was some peat (a popular choice of fuel in Denmark), these were present in sparse amounts and could not be used for anything but cooking. The other source of fuel was coal. Funch did not attempt to give the taxonomical name for the types of coal available, but limited his description to include their smell and appearance when burned. While coal had only been available in limited quantities, he believed that there were plenty of possibilities for extracting large amounts of coal in the north of Greenland:

Ever since this time has nothing been extracted, except for when the merchant or missionary have funded the extraction, when the ration of coal sent from the homeland did not suffice. However I do believe that there is now plans for extracting coal once again, in order to supply the colony if not from Rome then from other areas.<sup>100</sup>

Rome, an area in the north of Greenland, was where Funch believed the best coal could be found. Funch's eye to the possibility of economic advances as well as a bettering of the quality of life enjoyed in Greenland is evident throughout the narrative. By contrast, the missionary wife's account was passive one, in that it

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<sup>100</sup> Translated from the original Danish, "Siden den Tid er der Intet bleven brudt, uden naar Kjøbmanden eller Missionæren for egen Regning lode bryde, naar det fra Fædrenelandet udsendte Quantum Kul ikke var tilstrækkeligt. Dog troer jeg, at man nu igjen begynder at tænke paa at bryde Kul, saaledes at Colonien kunde forsynes, om just ikke fra Rome, saa fra andre Steder" Ibid., 54.

afforded little to no judgement on what could be done to better the quality of life in Greenland. When she described the winter period in Greenland, she simply noted that Inuit had starved so much that most of their dogs had died from hunger.<sup>101</sup> Although she expressed sadness at this fact, it was again clouded by self-pity as they had come to her and her husband to trade for food. On the whole, the ethnographic descriptions in her narrative were highly negative. The religious practices around death and illness, treatment of animals, trustworthiness and general morality, were all framed in a combination of civilizing rhetoric and disdain.

While Funch supported the monopoly trade in Greenland against the possibility of the privatization of the trade, Funch also criticized some of the practices of the KGH. This contrasted starkly to Simpson's wholly positive account of the HBC and reveals the tensions between missionaries and traders in Greenland. Funch's ethnographic first-hand descriptions were in part framed to disprove what he considered to be false beliefs about Inuit and Greenland. For example, Funch noted that while the KGH was unhappy with the loss of trade during the summer, it would, contrary to what the KGH argued, be unfair to forcefully stop this practice. It was, Funch argued, unkind to make Indigenous Greenlanders remain settled in their villages and abstain from travelling to hunt during the warmer periods.<sup>102</sup> Not only did the annual hunt for reindeer provide much enjoyment, the meat also sustained the village during the winter and maintained their independence.<sup>103</sup> On the other

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<sup>101</sup> Anon, "Udtog Af En Dansk Dames Dagbog, Ført I Grønland 1837-1838," February 1839, 231.

<sup>102</sup> Funch, *Syv aar i Nordgrønland*, 7.

<sup>103</sup> *Ibid.*

hand, Funch also argued that it was not unfair that the KGH paid their Inuit traders significantly less for their products than what they sold them for back in Denmark, and conversely sold Inuit products from Denmark at a marked-up price, because Inuit were unable to save money and plan for the future. “But why should people, who are so careless with their money, have a greater part”, Funch, similarly to the missionary wife, asked rhetorically.<sup>104</sup>

Missionaries were active practitioners of imperial science. According to Sujit Sivasundaram, a key bridge between scientific exploration and evangelical mission is the observation, collection, and signification of nature. Sivasundaram, as well as scholars such as Bernard Lightman, Aileen Fyfe and Jonathan Topham, have shown the pervasiveness of theological themes in nineteenth-century British popular scientific literature.<sup>105</sup> Missionary science was part of this body of non-elite scientific literature. Because they were settled and not exploring, missionary settler accounts were not as naturally embedded in the rhetoric of the heroic explorer. While travel narratives generally were aimed both at a popular and more specialist scientific audience, there is a significant difference between the level of scientific training of the authors examined in this section and those in the other parts of this chapter. Funch was a theologian, and there is no evidence to suggest that he had received any formal education in any scientific area other than theology. In spite of this, Funch sent information back to Denmark from Greenland that was published in

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<sup>104</sup> Translated from the original Danish: “Men hvorfor skulle nu Mennesker, der omgaaes saa letsindigen med Penge, have større Fordel?” Ibid., 51.

<sup>105</sup> See for example: Lightman, *Victorian Popularizers of Science*; Fyfe and Lightman, *Science in the Marketplace*; Fyfe, *Science and Salvation*; Topham, “Beyond the ‘Common Context.’”

the journals of the learned societies. This was not limited to the religious situation in Greenland, or other observations related to ethnography. Funch collected specimens of fish, animals and plants, which were sent to Denmark. For example, some specimens were given to Professor Reinhardt which became part of his 'Ichyologiske Bidrag til den grønlandske Fauna' published in the journal *Det Kongelige Danske Videnskabernes Selskabs Naturvidenskabelige og Mathematisk Afhandlinger*.<sup>106</sup>

While there is no information on the background of the missionary wife, she appears to have had no substantial training either in theology nor natural history. Bernard Lightman has shown how the maternal tradition, a style of writing that adopted the narrative voice of a mother figure, was popular amongst female writers in the first part of the nineteenth century.<sup>107</sup> The familiar format was not well suited for attracting the emerging mass-reading audience of mid-nineteenth century Britain that comprised of men and women of all ages. As such women popularisers of science began experimenting with other narrative formats. Written in the 1830s, 'Udtog af en dansk dames dagbog' is stylistically awkward, especially when compared with the literary trends in Britain at the time. As a travel narrative, it was written in a diary format, but it was largely void of the types of dramatic flair so prevalent in other Arctic narratives in this period, such as in Funch's.

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<sup>106</sup> J. (Johannes) Reinhardt, "Ichyologiske Bidrag Til Den Grønlandske Fauna," *Det Kongelige Danske Videnskabernes Selskabs Skrifter. Naturvidenskabelig Og Mathematisk Afdeling*, no. 7 (1838): 83–196.

<sup>107</sup> Lightman, *Victorian Popularizers of Science*, 96–97.

With its emphasis on the home and a narrative voice explicitly gendered female, it has strong parallels to the maternal tradition, or familiar format, described by Lightman. Yet, it was not written for children and women. *Læsefrugter*, the journal that published the excerpt, was geared towards a broad reading audience and was an exceptionally popular literary publication.<sup>108</sup> The history of the print press is highly specific to each country, and even to individual cities. In Denmark, the cheaper forms of popular science publications and science lectures were not launched until the last decades of the nineteenth century.<sup>109</sup> The explosion of the cheap periodical press and the mass reading audience in Britain did not happen at the same time in Denmark. While British publications were translated into Danish, and vice versa, it should not be surprising that narrative formats varied in the two contexts. The same is the case with British North America. The narrative by the missionary wife is significant in that it problematizes the persona of the Arctic explorer. The Arctic explorer and its associated glory, danger and discovery were gendered in opposition to the homebound, passive, and feminine. The missionary wife did not establish a feminine version of the heroic Arctic explorer, but utilized the diary-format of the travel narrative to create an authoritative yet passive narrative format.

Funch's narrative was not extensively reviewed, nor was it translated into other languages. The same goes for the narrative by the missionary wife. However, both are still significant historical documents as they show the tensions between

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<sup>108</sup> Steffen Auring, *Dansk litteraturhistorie 5: Borgerlig enhedskultur 1807-48*, vol. 5, *Dansk Litteraturhistorie* (Gyldendal, 1984), 403.

<sup>109</sup> Andersen and Hjermitsev, "Directing Public Interest," 144.

and interconnectedness of trade, imperialism, religion, and science in the Arctic. Spiritual expansionism is different from state-led imperialism, but the two worked hand in hand in Greenland. As such, Funch's claim that the Danish imperial presence was bettering the lives of the colonized subjects in Greenland was a way to legitimize his own missionary project. It also factored in the way he portrayed himself as a trustworthy observer of life and nature in Greenland. This was just as important for Funch as it was for Ross, and as the next chapter will show, it was also a significant challenge for explorations organized by the trading companies. The position of the missionary wife was different, as her account was gendered female and anonymous. At the same time, there are key parallels between the way Funch and the missionary wife portrayed themselves in contrast with the Indigenous peoples. As they made a home in the Arctic, they brought with them ideologies, pre-conceived notions, from Denmark that to varying degree was transformed in the contact zone and shaped their science in the Arctic.

#### **4. The HBC takes charge: the Simpson-Dease expedition**

An extraordinarily important discovery has been made. For two hundred years the dissolution of a geographical problem under the name of the Northwest Passage has been sought in vain. It has now been found! Dease and Simpson are the names of the two English sailors who on August 3<sup>rd</sup> 1837 were the first to see the southern flowing world ocean. This discovery, of which you can thank the so-called Hudson's Bay Company which had sent out the expedition,

is of the utmost importance, and the names Dease and Simpson have therefore become historically famous.<sup>110</sup>

- Aarhus Stifts-Tidende, 24 April, 1838

Since the amalgamation of the HBC and the NWC, the new HBC, led by Governor-in-Chief George Simpson, had supported the Royal Navy in exploratory missions to the Canadian Arctic. The first expedition organized exclusively by the HBC aimed at tracing the unmapped areas of the northern coast. They began in present day northern Alberta, at Fort Chipewyan through to Point Barrow, located in present day Alaska, and continued East between Turnagain Point, and Fury and Hecla Strait in present day Nunavut.<sup>111</sup> The HBC chose two men for the expedition: Thomas Simpson (1808-1840) and Peter Warren Dease (1788-1863). While the international newspapers were too enthusiastic in announcing the discovery of the North-West passage, the expedition mapped an unprecedented amount of land. With a starting point in the Dease-Simpson expedition and Simpson's narrative *Narrative of the Discoveries on the North Coast of America, effected by the officers of the Hudson's Bay Company, during the years of 1836-39* published posthumously in

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<sup>110</sup> Anon, "Nyheder Fra Udlandet," *Den Til Forsendelse Med Brevposterne Kongelig Allernaadigst (Alene) Privilegerede Aarhus Stifts-Tidende*, April 24, 1838, 1, Statsbiblioteket, Aarhus Universitet. (my translation from original Danish: 'Man har gjort en overmaade vigtig Opdagelse. I tohundrede Aar har man forgjæves søgt om Opløsningen af et geographisk Problem under Navn af Nordvestpassagen. Denne er nu fundet! Dease og Simpson hedde de to engelske Søfarere som, den 3die August 1827, havde været de Første som have seet det sydligtstrømmende Verdenshav. Denne Opdagelse, hvorfor man kan takke det saakaldte Hudsonbayske Selsskab, der havde udsendt Expeditionen, er af største Vigtighed, of Navnene Dease of Simpson er derved blevne historiskberømte.'

<sup>111</sup> Binnema, *Enlightened Zeal*, 147-48; Levere, *Science and the Canadian Arctic*, 192.

1843, this section examines the tension between the types of scientific results that were expected from exploratory missions, and what a trading company such as the HBC had as its focus.<sup>112</sup> As in section two and three, this section shows the difficulties explorers faced in constructing appropriate identities for themselves as trustworthy observers of the Arctic, when participating in expeditions organized outside the remit of the government. In particular, this section addresses the center-periphery binary, to explore the power relations between the HBC and the British metropole (including but not limited to the Royal Navy), and its effect on the nature of Arctic explorations, the portrayal of the explorer and explorations, as well as the Arctic itself.

The two men chosen for the expedition had backgrounds that were well suited for this type of over-land expedition. Dease was the leader of the expedition. He was the fourth son of superintendent general of the Western Indians John Dease (c. 1774-1801), and possibly of mixed Irish and Mohawk descent.<sup>113</sup> When he was only 13 years old Dease joined the XY Company, and continued to work as a fur trader after the amalgamation of the XY Company and the NWC in 1804.<sup>114</sup> Dease was appointed chief trader in the new HBC in 1821, and participated in Franklin's

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<sup>112</sup> Thomas Simpson, *Narrative of the Discoveries on the North Coast of America: Effected by the Officers of the Hudson's Bay Company During the Years 1836-39* (R. Bentley, 1843).

<sup>113</sup> William Barr, ed., *From Barrow to Boothia: The Arctic Journal of Chief Factor Peter Warren Dease, 1836-1839* (Montreal: McGill-Queen's University Press, 2002), 7; David A. Armour, "Biography - DEASE, JOHN - Volume V (1801-1820) - Dictionary of Canadian Biography," accessed November 2, 2016, [http://www.biographi.ca/en/bio/dease\\_john\\_5E.html](http://www.biographi.ca/en/bio/dease_john_5E.html).

<sup>114</sup> Barr, *From Barrow to Boothia*, 7.





Figure 17. Discoveries and routes of Dease and Simpson. Map held by Library and Archives Canada, MIKAN no. 4149392<sup>115</sup>

<sup>115</sup> Peter Warren Dease and Thomas Simpson, "Northern America [and] Discoveries of the Honble. Hudson's Bay Company's Arctic Expedition in 1838 and 1839. Dease and Simpson. London, Richard Bentley, New Burlington St., 1843. John Arrowsmith. [Cartographic Material].," n.d., MIKAN no 4149392, microfiche version NMC6024, Library and Archives Canada.

second expedition examined in the previous chapter. Dease supported Franklin's expedition by helping to make peace between the Dogribs and the Yellowknives, a conflict that, as discussed in chapter one, had hindered the expedition. In addition, Dease helped Franklin manage their relations with the Indigenous groups and obtain food and other provisions. In 1828 Dease was promoted to Chief Factor. Dease was known for his ability to establish good relations with Indigenous peoples and his subordinates, and his language and travel skills.<sup>116</sup>

Simpson was a very different type of person in comparison to Dease. The cousin of HBC Governor-in-Chief George Simpson, he had attended King's College in Aberdeen, where he graduated with a Master of Arts in 1828. He was awarded the university's Huttonian prize, their highest award for best overall achievement.<sup>117</sup> Originally Simpson had intended to study Divinity, but was made an offer from the HBC to become George Simpson's secretary and so he joined the HBC in 1828. His studies in Aberdeen had prepared him well for the scientific aspects of Arctic expeditions, and he quickly became an excellent traveller as well.<sup>118</sup> However, as Ted Binnema and others have pointed out, while Simpson was a highly skilled explorer and scientific practitioner, his personality was disagreeable and unstable.<sup>119</sup> Dease did not publish a narrative from the expedition, but Simpson prepared his while travelling south en route to England.

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<sup>116</sup> Binnema, *Enlightened Zeal*, 147.

<sup>117</sup> Alexander Simpson, *The Life and Travels of Thomas Simpson: The Arctic Discoverer* (R. Bentley, 1845), 19–20; Binnema, *Enlightened Zeal*, 147.

<sup>118</sup> Binnema, *Enlightened Zeal*, 147.

<sup>119</sup> *Ibid.*

The Dease-Simpson expedition signified a change in direction of the HBC's own expeditions in two significant ways: first, it differed from the Royal Navy expeditions with regards to the priority accorded to scientific subjects other than geography, and secondly, they successfully adopted Indigenous methods for surviving and travelling in the Arctic. Previous expeditions to the Arctic had generated large contributions to many scientific areas, and this was an expected part of the outcome of Arctic explorations. The achievements of this expedition were primarily geographical, and it showcased what the HBC could accomplish with regards to geographical surveying compared to the Royal Navy. Ted Binnema and Trevor Levere have both pointed out that the HBC prioritized the pursuit of science only so far as it could assist the economic goals or social status of the company.<sup>120</sup> Dease and Simpson were ordered to survey much more land than what any of the Royal Navy-sponsored expeditions had accomplished before. However, compared to the Royal Navy sponsored expeditions, the scientific results from the Dease-Simpson expedition were small. Because of this, the Dease-Simpson expedition has not received much attention by historians of science. However, the Dease-Simpson expedition provides important insight into the expression of Arctic science and explorations, when carried out in a context of tensions between science, economic gain, and socio-political status.

The results of the expedition in the science of geography were acknowledged by the completion of the expedition, and in 1839 Simpson received the Royal Geographical Society of London's medal for "advancing, almost to its completion, the

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<sup>120</sup> Binnema, *Enlightened Zeal*; Levere, *Science and the Canadian Arctic*.

solution of the great problem of the configuration of the northern line of the North American continent".<sup>121</sup> The published narrative itself was also a scientific document, beyond the geographical aspects. Although the focus on science during the expedition had been downgraded, the reviews of Simpson's narrative reveal that it was still seen as a scientific text, as well as an entertaining account of the dangerous life in the Arctic. For example, *The Aberdeen Journal* noted that "its value, scientifically, is really great"<sup>122</sup>, while *The Monthly Review* noted that the narrative "will be interesting to the general as well as to the scientific reader."<sup>123</sup> *The Examiner* wrote that Simpson "is to be added to the long list of resolute and daring men, who have perished in their ardour for science"<sup>124</sup> For example, the narrative included observations related to magnetism, aurora borealis, minerals, plants, animal life, and ethnography. As discussed in the previous section, travel narratives were a key evidentiary resource for both researchers and non-specialists interested in extra-Europeans. Descriptions of Indigenous peoples in narratives such as Simpson's both assisted ethnographic researchers and informed the non-specialist reader. Scholars such as Michael Bravo, Catherine Hall, and Efram Sera-Shriar, have shown the role of travel narratives in shaping ethnographic knowledge.<sup>125</sup>

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<sup>121</sup> Royal Geographical Society of Great Britain, "The President's Address on Presenting Medals," *The Journal of the Royal Geographical Society* 9 (1839): xi.

<sup>122</sup> Anon, "Arctic Expeditions: The Late Mr. Simpson," *The Aberdeen Journal*, January 24, 1844, 1, Gale NewsVault.

<sup>123</sup> Anon, "Book Review," *The Monthly Review* 3, no. 1 (September 1843): 82.

<sup>124</sup> Leigh Hunt, ed., "A Narrative of the Discoveries on the North Coast of America; Effected by the Officers of the Hudson's Bay Company during the Years 1836-1839," *Examiner*, no. 1856 (August 26, 1843): 532.

<sup>125</sup> Sera-Shriar, "Arctic Observers"; Hall, *Civilising Subjects*; Bravo and Sörlin, *Narrating the Arctic*.

Furthermore, Sadiah Qureshi has emphasised the significance of travel literature in shaping perceptions of the foreign living peoples shown in England, and argued that, “Undoubtedly, travel literature was of fundamental importance in shaping the conventions of representation shared by showmen, consumers, and learned men alike.”<sup>126</sup> As such, Simpson’s description of the behaviour and customs of Indigenous peoples, as well as their physical appearance, style of clothing, and methods for travelling and surviving in the Arctic, became part of the discourse around the Arctic and its inhabitants.

Simpson’s narrative and the briefer accounts of the expedition that were published in the periodical press shaped not only perceptions of Indigenous peoples in the Arctic, but also of the HBC, as well as the fur trade’s influence on the lives of the Indigenous population. Sending out their own expedition was from this perspective a central way for the HBC to control the discussion around their suitability to govern their territories, and create a positive image of the Company’s policies. The HBC submitted an application for renewal of its licence in 1837, and it was not a coincidence that this coincided with the Dease-Simpson expedition. The HBC faced a serious critique of their treatment of Indigenous peoples, in particular by the surgeon and co-founding member of the Ethnological Society of London Richard King (c.1811-1876). King had travelled through HBC territory as part of the Back-expedition, and became very vocal in his criticisms of the exploitative practices of the HBC when he returned to England. The HBC’s directors were anxious to bar

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<sup>126</sup> Sadiah Qureshi, *Peoples on Parade: Exhibitions, Empire, and Anthropology in Nineteenth-Century Britain* (Chicago: University of Chicago Press, 2011), 88.

King from returning to their territories, and counter his portrayal of their treatment of Indigenous peoples.<sup>127</sup> In his narrative, Simpson addressed the Indigenous peoples' living conditions, life-styles, and relationship with the HBC. Unsurprisingly, Simpson's description of the HBC's practices was much more positive than King's. While at Fort Confidence, Simpson described the relationship between the native fur traders and the HBC officers as a familial one, "Every circumstance indicates a kindly familiar intercourse; the natural result of which is, that the Indians are attached to the Company's officers, whom in common discourse they style their 'fathers' and their 'brothers'."<sup>128</sup> By describing the HBC officers as parental-like figures to the Indigenous peoples, Simpson was drawing on a common rhetoric of the time that described extra-Europeans as children. For example, this was the same rhetoric utilized in Greenland by Funch and the missionary wife. The parent-child rhetoric implied that extra-Europeans benefitted from being guided, or rather controlled, by European policies.<sup>129</sup>

Simpson's description of the HBC's treatment of Indigenous was highly biased, and constructed to portray the HBC in a flattering light. According to Simpson, the HBC wanted "to render the natives comfortable", with food, clothing

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<sup>127</sup> For more on King's life and conflicts surrounding the HBC see Hugh N. Wallace, *The Navy, the Company, and Richard King: British Exploration in the Canadian Arctic, 1829-1860* (Montreal: McGill-Queen's University Press, 1980); Sera-Shriar, "Arctic Observers."

<sup>128</sup> Simpson, *Narrative of the Discoveries on the North Coast of America*, 221.

<sup>129</sup> Hilary E. Wyss, *Writing Indians: Literacy, Christianity, and Native Community in Early America*, Paperback edition, first published 2000 (Amherst, Boston: University of Massachusetts Press, 2003), 126, 143; Gregory Eiselein, *Literature and Humanitarian Reform in the Civil War Era* (Bloomington: Indiana University Press, 1996), 141-44.

and gun ammunition, even when they did not have the means to purchase it, without putting them in debt.<sup>130</sup> Yet, Simpson argued “the improvidence of the Indian character is an unsurmountable obstacle to its success” which compelled the HBC to create policies to control their behaviour, including the prohibition of liquor.<sup>131</sup> Simpson also recounted how the HBC had taken the “human precautions” of vaccination of Indigenous against small-pox.<sup>132</sup> All of this, Simpson argued, showed “the Company’s humane policy.”<sup>133</sup> The reviewers of Simpson’s narrative were generally convinced of the truthfulness of Simpson’s positive portrayal of the HBC. For example, *The Quarterly Review* published an anonymous review of *Narrative of a Discovery* which noted that “There is one fact, evidence of which pervades the volume, and which makes us rise from its perusal with peculiar satisfaction: we mean the truly humanising and Christian effect of the operations of the Hudson’s Bay Company on the aboriginal tribes.”<sup>134</sup> According to the review, the amalgamation of the HBC and NWC had allowed the new HBC to make positive changes to the living situations of Indigenous peoples, and that “Sufficient proofs of this fact appear at the outset of Mr. Simpson’s volume, even in his description, though cursory, of the Red River settlement, from which he started for his

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<sup>130</sup> Simpson, *Narrative of the Discoveries on the North Coast of America*, 73–74.

<sup>131</sup> *Ibid.*, 74.

<sup>132</sup> *Ibid.*, 228.

<sup>133</sup> *Ibid.*, 73.

<sup>134</sup> Anon, “ART. V.-Narrative of the Discoveries on the North Coast of America, Effected by the Officers of the Hudson’s Bay Company, during the Years 1836-39.,” *The Quarterly Review* 73, no. 145 (December 1843): 117. Attributed to Egerton Francis (1800-1857) by Wellesley

journey.”<sup>135</sup> Similarly, *Chambers’s Edinburgh Journal* praised the HBC’s policies as represented in Simpson’s narrative:

At this stage of Mr Simpson’s narrative we are presented with several traits of Indian character, among which may be noticed their insatiable desire for ardent spirits or “fire-water,” as they expressively term it; their improvidence and recklessness during seasons of plenty; their passion for the chase, by which they will destroy countless herds of deer and buffalo, leaving the carcasses to bleach on the plains; and their indomitable aversion to pursuits of a fixed and stationary nature. He also notices many of their manners and customs, with which our readers may become acquainted by consulting the recent work of Mr Caitlin; and dwells upon the many humane endeavours of the Company to improve and better their condition.<sup>136</sup>

This description shows the effectiveness of the HBC’s rhetorical strategy, as expressed through books such as Simpson’s narrative, to frame their activities and policies in North America as a positive to the lives of the Indigenous peoples. Simpson’s descriptions of the HBC was linked to efforts for the HBC to maintain their authority in the region, but extended into wider debates about the treatment of Indigenous peoples in the British Empire, as well as developments within ethnology

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<sup>135</sup> Ibid.

<sup>136</sup> Anon, “Discoveries on the North Coast of America,” *Chambers’ Edinburgh Journal* XII, no. 35 (1844): 277.



and anthropology.<sup>137</sup> The debate over the treatment of Indigenous peoples did of course not end with the Dease-Simpson expedition. Groups such as the Aborigines' Protection Society (APS), which was established in 1837 with King and Thomas Hodgkin (1798-1866) as central figures, were vocal in their criticisms of the HBC. The APS argued that the HBC's monopoly on trade was a direct impediment for the wellbeing of the Indigenous peoples. As Gregory Marchildon has stated, the APS believed that: "Not only did it [the HBC] deprive the hunter of fair value for his work but, from its humanitarian, paternalistic, and British supremacist perspective, the Aborigines Protection Society imputed that it barred him from contact with civilized man and the supposedly ameliorating influences needed for his advancement on the scale of humanity."<sup>138</sup> The Dease-Simpson expedition, and the accounts of the expedition particularly in Simpson's narrative were shaped by and became part of this heated discourse with scientific, political, economic and religious implications.

The second feature of the Dease-Simpson expedition relates to the shift in goals between the HBC and the British Royal Navy, namely the prioritization of using methods that made travelling in the Arctic more efficient and cost-effective. A key reason for why Ross' expedition had succeeded in surviving their unintentionally long stay in the Arctic was because of the adoption of Indigenous methods for travelling and wintering in the Arctic. This became a central part of the HBC expeditions, as the HBC considered the methods used by the Royal Navy

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<sup>137</sup> For more on the controversies surrounding the HBC and how it was reflected in travel narratives and the human sciences, see Sera-Shriar, "Arctic Observers."

<sup>138</sup> Gregory P. Marchildon, *The Early Northwest* (University of Regina Press, 2008), 181.

expeditions inefficient and costly. Because Simpson and Dease were already in Canada, they did not have to spend time or money on transport from England to North America. There were no expensive and large boats involved in the expedition, and the crew was small. However, Simpson's use of Indigenous knowledge did not positively influence the way he portrayed Inuit. Throughout his narrative, Simpson's disdain for the Indigenous peoples in North America is evident. While other explorers such as Franklin and Rae certainly exploited the uneven trade value of trinkets such as beads, tin objects, and tobacco, from the British and Danish point of view, to gain objects such as boats, furs, and ivory, Simpson's description of these interactions reveals his low opinions of the Indigenous population. The tone of Simpson's account makes it clear that the trade value of these items was laughable, and their desire for tobacco (and spirits) was proof of their bad character, and evidence for the necessity of the HBC's policies. There is a tension in Simpson's narrative between his stated views of Indigenous peoples' morality and intelligence, and the reality that Simpson and his crew relied on those same individuals for travelling and surviving in the Arctic in order to complete their extensive surveying.

A good example of this tension is recorded in Simpson's narrative for the journey between Boat Extreme and Point Barrow. It was an arduous journey on foot, so when they encountered a small group of Inuit they saw an opportunity to acquire umiaks and travel by water instead. This was a much easier way of travelling, especially as it saved them carrying their provisions on their persons. Simpson described the first sight of the group as filling them with "inexpressible joy ... but, on our approach the women and children threw themselves into their canoes, and

pushed off from the shore. I shouted 'Kabloonan teyma Inueet,' meaning, 'We are white men, friendly to the Esquimaux'.<sup>139</sup> According to Simpson, this eased the tensions that the presence of their party had caused so much that they "almost overpowered us with caresses."<sup>140</sup> After trading with tobacco, they agreed to lend them an umiak and oars, which were being used for tent-poles, "and arranged our strange vessel so well that the ladies were in raptures, declaring us to be genuine Esquimaux, and not poor white men." This point of comparison appears to have been recorded with some pride. Furthermore, Simpson was given a sketch of the inlet and coastline by one of the women:

I procured, from the most intelligent of the women, a sketch of the inlet before us, and of the coast to the westward, as far as her knowledge extended. She represented the inlet as very deep; that they make many encampments in travelling round it; but that it receives no river. She also drew a bay of some size to the west-ward; and the old man added a long and very narrow projection, covered with tents, which I could not doubt to mean Point Barrow.<sup>141</sup>

Simpson used the geographical knowledge of the Indigenous woman, and the wording suggests he actively sought this information out from the 'most intelligent of the women'. There is a stark difference in the way Franklin recorded his

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<sup>139</sup> Simpson, *Narrative of the Discoveries on the North Coast of America*, 146.

<sup>140</sup> *Ibid.*, 147.

<sup>141</sup> *Ibid.*, 149.

interaction with the Inuk interpreter Augustus, as discussed in chapter one, that reveals Simpson's view of the Indigenous peoples he met. In his narrative, Franklin included details such as personal names, names of tribes, and details of language, in addition to observations of familial relations, customs and habits. By contrast, while there was in fact much ethnographic detail recorded in Simpson's narrative, Simpson did not include personal information such as the name of the woman, or older man, who informed him of the geographical features of the coastal line. Whereas Franklin utilised the ethnographic aspects of the 'geographical gift', as Michael Bravo has termed the process of navigation by Indigenous informant, Simpson was here seemingly uninterested in the finer details of who lived in the areas he was travelling through, and did not procure – or at least did not record in his narrative – any such information from the group that lend him the umiak, referring to them only under the general term 'Esquimaux'. Because of this, Simpson was unprepared for meeting another group of Indigenous peoples soon after departing in their umiak, whereas, by contrast, Franklin utilised the ethnographic knowledge to navigate the landscape. Simpson was happy to use the Indigenous methods for surviving and travelling in the Arctic, but his narrative did not exhibit much care for the people inhabiting the Arctic, unless it was to show the positive influence of the HBC on their morality. Simpson's narrative was clearly shaped by the HBC's need to create a polished and humanitarian image of themselves, in order to justify their continued monopoly on trade.

Simpson and Dease had experienced the Arctic and interacted with the Indigenous peoples first hand, and this direct observation gave the narrative an air

of credibility. However, there was one event that threatened to ruin the credibility of Simpson's narrative, namely the circumstances of his untimely death. Simpson's narrative included a preface written by his brother Alexander Simpson, which gave a biographical sketch of Simpson. In it, Alexander Simpson emphasised the role his brother played in the expedition over that of Dease, "[a]lthough Mr. Simpson's name appears only as second or junior officer of the expedition". According to Alexander Simpson, his brother was in fact "the main-spring of the expedition" as he was the only one trained in science, and that he surveyed the large area between Great Slave Lake and the Coppermine River on foot without Dease.<sup>142</sup> Alexander Simpson had an important reason for emphasising his brother's skills and role during the expedition. After the Dease-Simpson expedition, Simpson travelled south towards the Minnesota River onward to England with a large party. Simpson went ahead of larger party with four men, and on 14 June 1840 shot John Bird and Legros Senior, before committing suicide. Eye-witnesses stated that Simpson had become mentally unstable, and thought that John Bird and Legros Senior wanted to kill him. The murder-suicide was extensively discussed in the periodical press, where he was described as a "madman" who suffered from "mental hallucination".<sup>143</sup>

In the preface, and in the later *the Life and Travels of Thomas Simpson, the Arctic Discoverer* (1845), Alexander Simpson emphasised the possibility that Simpson had acted in self-defence and that "the depositions of those who pretend to

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<sup>142</sup> Ibid., xi, xii.

<sup>143</sup> Anon, "Thomas Simpson, Esq.," ed. John Mitford, *The Gentleman's Magazine: And Historical Review, July 1856-May 1868*, November 1840, 548. Anon, "Our Weekly Gossip.," *The Athenaeum*, no. 671 (September 5, 1840): 701.

describe the manner of his death are contradictory in the extreme.”<sup>144</sup> This was a way to protect or re-establish Simpson’s legacy as a heroic Arctic explorer, and give credibility to his narrative. As it was, Simpson’s narrative was well received. For example, *The Examiner* noted that, “The name of Thomas Simpson is to be added to the long list of resolute and daring men, who have perished in their ardour for science, on the scene of their adventure and on the eve of what promised to be their greatest discoveries. This Narrative was found among his papers, and forms a pleasing record of him.”<sup>145</sup> The reviews of the narrative that appeared in the periodical press echoed Alexander Simpson’s assertion that Simpson was the primary driver behind the achievements of the expedition. *The Critic* was particularly flattering, as it described Simpson’s narrative form as ‘modest’, resulting in “a more exciting story of adventure, a record more creditable to British courage, humanity, and intelligence, has seldom been offered to the public.”<sup>146</sup>

As the mercantile aspects of Arctic explorations were touched upon throughout the narrative, the reviews of Simpson’s narrative did the same. For example, *The London and Westminster Review* noted how the narrative showed the economic benefits of surveying the Canadian Arctic:

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<sup>144</sup> Simpson, *Narrative of the Discoveries on the North Coast of America*, xvii.

<sup>145</sup> Leigh Hunt, ed., “B. Narrative of the Discoveries on the North Coast of America; Effected by the Officers of the Hudson’s Bay Company during the Years 1836-1839,” *Examiner*, no. 1856 (August 26, 1843): 532.

<sup>146</sup> Anon, “Narrative of the Discoveries on the North Coast of America, Effected by the Officers of the Hudson’s Bay Company, during the Years 1836-9.,” *Critic of Literature, Art, Science, and the Drama, 1843-1844*, February 1844, 85.

It was at first thought that few commercial advantages could arise from the discoveries of Messrs Dease and Simpson, but from the nature of the interior, which is intersected by rivers and lakes abounding with fish, and the facilities it possesses for the collection of furs, they are likely to be considerable.<sup>147</sup>

While Simpson and Dease did not collect or describe a very large amount of natural history specimens during their expedition, Simpson described in detail the potential for further use of the resources in the areas, and the process by which the trade was carried out. Inuit were, Simpson accounted, often “eager to trade”<sup>148</sup> and “anxious” to trade furs for objects such as shells<sup>149</sup>. More significantly Simpson also touched upon the import and export of goods to and from Britain. The fur industry was a large transcontinental business industry. In ‘The Importance of Staple Products’ (first published 1930), Harold Adams Innis famously argued that the political, economic and social development of Canada was shaped by the export of raw materials – i.e. staples - to other countries.<sup>150</sup> The staples thesis has been criticized on many levels, but is still an influential and useful expression of the economic structure of nineteenth-century Canada.<sup>151</sup> The imported products from England

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<sup>147</sup> S. R, “ART. VI.-The Journal of the Royal Geographical Society of London.,” ed. John Bowring, *London and Westminster Review*, Apr. 1836-Mar. 1840 31, no. 2 (August 1838): 389.

<sup>148</sup> Simpson, *Narrative of the Discoveries on the North Coast of America*, 156.

<sup>149</sup> *Ibid.*, 190.

<sup>150</sup> Innis, *The Fur Trade in Canada*.

<sup>151</sup> Robin Neill, *A History of Canadian Economic Thought*, Routledge History of Economic Thought Series (London: Routledge, 1991).

were sold at a high cost.<sup>152</sup> Simpson lamented the fact that it seemed impossible to convince the Indigenous population in the Arctic to move and become settled farmers, and establish Canadian domestic manufacturing of products otherwise carried out in Britain. The raw materials, or staple products, should better be utilized in Canada, as this could “diminish the annual orders from England, and ... render the people independent”.<sup>153</sup> According to Simpson, the organization best suited to support such developments was, of course, the HBC.

The role of trading companies within the British Empire remained a heated subject. In 1857, two years before the HBC’s grant of the colony of Vancouver Island was due for renewal, the ‘Select Committee on the Hudson’s Bay Company’ reviewed the history of the HBC as part of a wider discussion on whether such a trading company was suited to govern British colonial land. The HBC colonial authority in North America was a concern for the metropole, and, as the next chapter shows, was debated extensively both in the British parliament and in the press.<sup>154</sup> While the Dease-Simpson expedition did not settle the controversies surrounding the HBC, it did showcase what could be accomplished during over-land expeditions starting in Canada compared to those sent out from England. In contrast with the expeditions organized by the Royal Navy, and those designed in its image such as Ross’ second expedition, the HBC’s expedition did not place a significant emphasis on science. As

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<sup>152</sup> Simpson, *Narrative of the Discoveries on the North Coast of America*, 12–13.

<sup>153</sup> *Ibid.*, 13.

<sup>154</sup> See also: Perry Adele, “Designing Dispossession: The Select Committee on the Hudson’s Bay Company, Fur-Trade Governance, Indigenous Peoples and Settler Possibility,” in *Indigenous Communities and Settler Colonialism: Land Holding, Loss and Survival in an Interconnected World*, ed. Zoë Laidlaw and Alan Lester (New York: Palgrave Macmillan, 2015), 158.



Simpson himself remarked, the HBC did not even provide the expedition with chronometers.<sup>155</sup>

There is an interesting tension in Dease's published narrative between his implicit mandate to portray the HBC as a benevolent organization that was perfectly suited to govern the land and its peoples, and the way his travel narrative drew upon familiar conventions for establishing scientific authority. This section has argued that one clear difference between Dease and Simpson's expedition and those organized by the Royal Navy was in the amount of natural history specimens collected. Dease and Simpson did not prioritize this, which is for example reflected in the fact that the HBC did not provide them with expensive scientific equipment. As a trading company, the HBC was concerned with its bottom line, as well as maintaining its monopoly, and jurisdiction in its territories. Yet the Dease-Simpson expedition for the most part successfully avoided allegation that their results were compromised by economic infringement. The pressing concern for Alexander Simpson was how to handle the unfortunate way his brother had passed away. The allegation of madness was yet another way the results from the expedition could be delegitimized. Alexander Simpson defended his brother against these charges by suggesting that his killers had been after the valuable documents he produced during the expedition. The reviews mentioned in this section suggests that this explanation was not fully believed, yet it did not negatively affect the perception of the expedition itself. Perhaps because Dease and Simpson surveyed an unprecedented amount of land, the reviews of Simpson's narrative did not appear to

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<sup>155</sup> Simpson, *Narrative of the Discoveries on the North Coast of America*, 132.

have considered Simpson's murder-suicide, the lack of collected specimens, or experimental results produced during the expedition, to be other than a minor downfall. In some respect, this speaks to the disappointments with the lack of geographical results from previous expeditions in search of the North West Passage.

## **Conclusion**

Following the early expeditions to the Arctic there was an increase in the possible sponsors of such ventures. When organized outside of the authority of the governments, Arctic explorations did not necessarily have the same priorities as those that were. In particular, they differed in the extent to which they prioritized formal scientific inquiry and had access to expensive scientific equipment. With the expeditions organized by the British and Danish Royal navies examined in the previous chapter, the official primary focus was on geographical discovery with science taking a second place. As this chapter has shown, the extent to which the sponsor, or patron, altered the makeup of the expedition and the knowledge it produced differed vastly. This chapter examined four narratives that showed the challenges to the construction of scientific authority when non-governmental organizations and individuals organized the ventures.

Taken together, the four narratives illustrate the challenges faced by Arctic explorers in this period in justifying or defending their scientific and cultural authority, and the important function of scientific discovery in shaping the persona of an authoritative Arctic observer. Section two examined Ross' voyage organized by

gin magnate Booth, and they made use of what Ross believed would be the great new technology for Arctic exploration, navigation by steam. While Barrow initially appeared pleased with the results of Ross' expedition, the change in his perception of Ross was short-lived. Ross effectively blamed everyone but himself for the misfortune of both this and the 1818 expedition. In particular he attributed the failure of the steam engine to the incompetency of the engineers. However, they countered that they never designed the engine for the harsh climate in the Arctic. Ross withheld the true destination of the *Victory* partially on Booth's request, as Booth did not want people thinking he supported the venture for economic gain. Ross' attempts at establishing himself as a more knowledgeable expert on the science of steam than the engineers backfired, and came off as prideful and dishonest. As Barrow noted, the charts Ross produced of the coastal line were useless because Ross once again had proved himself untrustworthy.

While the narrative format of travel literature did not work well for Ross as a way to establish or maintain scientific and cultural authority, it was an important and very effective medium for Dease and Simpson as examined in section four. This expedition, organized by the HBC, did not prioritize scientific discovery to the same extent as the expeditions organized by the British and Danish governments. The HBC was concerned with financial gain. However, the HBC Governor-in-Chief saw scientific engagement as a key tool for creating goodwill towards the Company. It was therefore no coincidence that the Dease-Simpson expedition coincided with the renewal of the HBC's licence. Dease and Simpson were largely able to avoid allegations that their expedition was influenced by the financial concerns of the

HBC, and maintained their personae as trustworthy observers of Arctic phenomena. However, the financial ambitions of the HBC still shaped the expedition, and this was also the case in Greenland with the KGH. As section three shows, there was simultaneously tension and cooperation between the missionary work and the trading company. This shaped the missionary experience in Greenland and by extension the knowledge they produced. In particular, Funch's narrative shows a key preoccupation with balancing the portrayal of religion and trade in the representation of the missionary's place within the scientific community. This was linked to the construction of his own identity as a suitable person to undertake such work, as a trustworthy source for ethnographic data. The missionary wife's anonymous short two-part diary provides a unique perspective on the experiences of missionaries in Greenland. It is the only narrative examined in the thesis that was written by a female author, and it stands out stylistically. While it also made use of the diary format, it was largely void of the drama that was so present in other Arctic narratives. She did not frame herself as a heroic Arctic explorer, and rather focused on the home – not unlike the maternal tradition that was popular amongst female writers in Britain. The difference was, that her account in *Læsefrugter* was aimed at a broad, general reading audience, and not written specifically for children or women.

For Funch, establishing himself as an authoritative persona was a different process than for Ross, or Dease and Simpson. This is reflected in Funch's scientific focus. His emphasis was on issues pertaining to missionary work - the civilising mission. Funch and the missionary wife were in Greenland as missionaries, and they

were not commissioned by the scientific societies in Denmark to undertake research. Yet, their accounts still added to the body of knowledge about the Arctic, in particular in the fields of ethnography, including religious practices and linguistics. As such, this chapter has shown the many ways science in travel literature could add credibility to the author. Yet, having scientific results was not enough. There were many strategies for constructing an authoritative narrative format, but there were also certain conventions that furthered trustworthiness. Travel literature often included summaries of past expeditions, which could be used both to support an argument and discredit others. As the case of Ross showed however, this technique was detrimental when used incorrectly. By reopening the 'Croker Mountain' debacle and blaming the Admiralty for his mistake, Ross wrote his own downfall.

## Chapter 3

# The lost Franklin expedition and the new opportunities for Arctic explorations

### Introduction

Every one in the country who knows anything of what is passing throughout the world at large shares in the generous anxiety that Sir John Franklin may be brought safely home from his icy durance; and the Government cannot make exertions more arduous for that object than the nation will be ready to applaud and to second. For the whole case is changed from its original character. However unequal might have been, or may still be, the advantages and the costs of the discovery in itself, that point has nothing to do with the extrication of our gallant countryman from his awful situation.<sup>1</sup>

- Anon, *The Morning Post*, 26 October 1849

On 19 May 1845, John Franklin left London in the *HMS Erebus* and *HMS Terror*. The goal was, as usual, to find the Northwest Passage. In the fall of 1847 it had become

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<sup>1</sup> Anon, "Multiple News Items," *The Morning Post*, October 26, 1849, Gale NewsVault.

clear that Franklin and his crew were lost in the Arctic. The disappearance of Franklin's expedition generated a huge amount of publicity, in part due to the public campaigns to send out parties to retrieve them organized by Lady Jane Franklin (1791-1875). While funds for search missions were not flowing freely, Franklin's disappearance made them much easier to come by than in previous years. What followed were years of search missions, totalling more than thirty expeditions.<sup>2</sup> As the anonymous author in *The Morning Post* wrote, spending funds on finding Franklin was a very different endeavour than funding a search for the Northwest Passage.<sup>3</sup> Geographical surveying, charting the coastline to find the North West Passage or the North Pole, had previously been the primary aim of expeditions. This now changed. Officially, the primary aim of the search missions was finding Franklin, and everything else came second. While finding Franklin may have been the official reason for sending expeditions to the Arctic, it was of course never the sole, or even the primary, focus of the search missions. As this chapter will show, Arctic science in this period can be described as 'opportunistic' science. While forms of opportunism existed before this period, the opportunism that emerges in this chapter differs in two major ways. Firstly, an increase in expeditions setting out to the Arctic equalled an increase in the number of people getting the opportunity to undertake Arctic exploration. Secondly, the vagueness of the goal of 'finding Franklin' allowed for more flexibility in terms of what activities could be conducted

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<sup>2</sup> The total number of expeditions vary depending on the historical source, for a survey of the expeditions see W. Gillies Ross, "The Type and Number of Expeditions in the Franklin Search 1847-1859," *Arctic* 55, no. 1 (2002): 57-69.

<sup>3</sup> Anon, "Multiple News Items," October 26, 1849.

during the expeditions. The lost Franklin expedition challenged previously held conventions for what Arctic expeditions should accomplish, and this created a tension in the production of the travel narratives. This chapter explores the nature of Arctic science when carried out under the added pressure of finding the lost Franklin expedition.

The lost Franklin expedition generated international interest, and in turn international collaboration and financial assistance for search missions. As the English politician Sir Robert Inglis (1786-1855) stated to the British House of Commons in 1849, assistance from America and Russia meant that, “the three greatest empires in the world, had co-operated heartily, not in schemes for their own aggrandizement, but for the relief of suffering humanity.”<sup>4</sup> There has been a continued and significant amount of both scholarly and non-academic attention devoted to the Franklin expedition and its rescue missions.<sup>5</sup> Drawing on this

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<sup>4</sup> Anon, “Imperial Parliament,” *The Standard*, June 13, 1849, 3, Gale NewsVault.

<sup>5</sup> See for example: Brandt, *The Man Who Ate His Boots*; David C. Woodman, *Unravelling the Franklin Mystery, Second Edition: Inuit Testimony*, 2nd ed. (Montreal: McGill-Queen’s Press, 2015); Laurie Garrison, “Virtual Reality and Subjective Responses: Narrating the Search for the Franklin Expedition through Robert Burford’s Panorama,” *Early Popular Visual Culture* 10, no. 1 (2012): 7–22; David Murphy, *The Arctic Fox: Francis Leopold-McClintock* (Toronto: Dundurn, 2004); Martin W. Sandler, *Resolute: The Epic Search for the Northwest Passage and John Franklin, and the Discovery of the Queen’s Ghost Ship* (New York: Sterling Publishing Company, Inc., 2008); C. Stuart Houston and John Richardson, *Arctic Ordeal: The Journal of John Richardson, Surgeon-Naturalist with Franklin, 1820-1822* (Montreal: McGill-Queen’s Press, 1994); Russell A. Potter, *Finding Franklin: The Untold Story of a 165-Year Search* (Montreal: McGill-Queen’s Press, 2016); Ross, “The Type and Number of Expeditions in the Franklin Search 1847-1859”; John Geiger and Owen Beattie, *Frozen in Time*, First published 1987 (London, New Delhi, New York, Sydney: Bloomsbury, 2012); Jeffrey Blair Latta, *The Franklin Conspiracy: An Astonishing Solution to the Lost Arctic Expedition* (Toronto: Dundurn Press, 2001); Scott Cookman, *Ice Blink: The Tragic Fate of Sir John Franklin’s Lost Polar Expedition*



literature, section one examines the historical context for the Franklin expedition and considers the drivers behind both the decision to organize yet another attempt at locating the Northwest Passage and the many, opportunistic, search missions. This chapter does not focus on the Franklin expedition itself. Rather, it approaches the lost Franklin expedition as a change in the driver behind the organization of Arctic explorations. In doing so, the chapter examines three expeditions in search of Franklin, to address the question of what happened with Arctic science when the main goal was no longer discovering the Northwest Passage, but finding Franklin and his men: The John Rae and John Richardson expedition between 1848 and 1849, John Rae's later discovery of the fate of Franklin's men, and Carl Petersen's account from Francis Leopold McClintock's expedition between 1857 and 1859. The lost Franklin expedition added clear challenges that had to be navigated. It was a popular topic in the general periodical press, in poems, books, and lectures, in England and beyond. While the attention surrounding the Franklin expedition made funds available from both governments and private patrons for missions to the Arctic, the funding came attached with a higher level of scrutiny than before. The methods best suited to generate results in the Arctic were not necessarily the methods that were perceived as the best.

In 1848 the British government sent out three search missions; one overland, and two by sea. This was done to optimize the amount of area surveyed. James Clark Ross led an expedition through Lancaster Sound, while William Pullen (1813-1887)

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(New York: John Wiley & Sons, 2001); John Geiger and Alanna Mitchell, *Franklin's Lost Ship: The Historic Discovery of HMS Erebus* (Toronto: HarperCollins, 2015).

went through the Bering Strait. The over-land expedition was led by the Scottish naval surgeon John Richardson (1787-1865) and the Orcadian HBC surgeon John Rae (1813-1893). Following the conclusion of their expedition and Richardson's return to England in 1849, Rae continued to search for Franklin as part of his expeditions with the HBC. Section two examines the exploration led by Richardson with Rae as second in command between 1848 and 1849, with a starting point in Richardson's narrative *Arctic searching expedition: a journal of a boat-voyage through Rupert's Land and the Arctic Sea: in search of the discovery ships under command of Sir John Franklin* (1851). The Rae-Richardson expedition was organized by the Royal Navy, but their methods for travelling and surviving in the Arctic were shaped by Rae's employment with the HBC, and were distinctively different from those employed by the large Royal Navy expeditions. It was rugged, and they carried very few provisions and scientific instruments, in stark contrast with the lost expedition they set out to locate. However, Richardson was still able to undertake extensive and important scientific experiments and observations. Richardson could do so because he did not always accompany Rae during surveys. Richardson also left for England early, before they had finished surveying the intended areas. Section two examines aspects of Richardson's work during this expedition, with a focus on his geological research.

Rae did not undertake the same type of research. While Rae's methods for surveying were effective, they did not establish an air of gentlemanliness around him, and section three argues that this affected how all aspects of Rae's Arctic work were perceived in Britain. Franklin's expedition was last seen by Europeans in July

1845, and what happened after that has been clouded in mystery.<sup>6</sup> The specification 'Europeans' is significant, as the trustworthiness of testimony from Indigenous North Americans who reported sightings of Franklin and his crew became an issue of huge controversy. Rae famously reported, based on Indigenous informants, that Franklin's men had died, and that the last survivors had resorted to cannibalism. This was not the news Lady Jane Franklin wanted to hear, and Rae was subsequently condemned by many prominent British figures including Charles Dickens (1812-1870). How could one legitimize the cost of sending out further expeditions after Rae's testimony? Several arguments were used, but two stand out: Rae was wrong, it was argued, firstly for relying on Indigenous informants, and secondly for not using the information given to him to attempt at finding them himself. This chapter therefore, and section three in particular, considers the ever-present question of who has authority to speak about the Arctic and the ways this was affected by the self-portrayal of the Arctic explorers as well as the science they undertook.

Explorers who wished to seize an opportunity for employment as part of an Arctic exploration, and a chance to be part of discovering the Northwest Passage, could simply discard Rae's evidence. The idea that Franklin's men had resorted to cannibalism in a final attempt to sustain themselves before they all passed away was a significant affront to the British notion of the heroic Arctic explorer. Honourable British men could not possibly have done such an act, and Rae was mistaken in

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<sup>6</sup> Gillian Beer, *Open Fields: Science in Cultural Encounter* (Oxford, New York: Oxford University Press, 1999), 46; Levere, *Science and the Canadian Arctic*, 202.

trusting the accounts of Indigenous informants. As Robert Murchison stated at a meeting of the Royal Geographical Society of London in 1859, “whilst Sir Robert M’Clure had been worthily rewarded for his intrepid conduct in making a north-west passage, Franklin was the man who, by the self sacrifice of himself and his brave companions, had previously, by common consent, made *the* north-west passage.”<sup>7</sup> Franklin now personified Arctic exploration in Britain. When Rae reported that the expedition had resorted to cannibalism, he was effectively deconstructing the image of the British heroic man. In the Danish context there was no comparable uproar over Rae’s report. Section four examines the Danish sailor and translator Carl Petersen’s (Johan Carl Christian Petersen) narrative, *Den Sidste Franklin Expedition med Fox* (1860), in comparison with McClintock’s narrative, *The Voyage of the ‘Fox’ in the Arctic Seas* (1859). McClintock was careful not to touch upon the issue of cannibalism in his narrative, and the controversy over Rae’s report influenced how McClintock constructed the image of Arctic explorers. By contrast, Petersen merely reported this as a matter of fact and to add drama to his narrative from the expedition. Petersen did not have a stake in the issue in the same way that McClintock did, but they both used the Franklin expedition as an opportunity to participate in an Arctic expedition. The ability of Lady Franklin to generate public interest and financial support for continued expeditions shaped Arctic expeditions and the representations of the Arctic explorer in this period. The goal was not only to find Franklin, but also to find him in the right way.

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<sup>7</sup> Francis Leopold McClintock and Royal Geographical Society of Great Britain, “Discoveries by the Late Expedition in Search of Sir John Franklin and His Party,” *Proceedings of the Royal Geographical Society of London* 30 (1860): 13.

## 1. New opportunities in the Arctic

The Board of Admiralty by their “effort” virtually declare that the lost Expedition cannot be relived unless the “Passage” be discovered; we must first discover the “Passage” and then seek out the lost Expedition. To this declaration, my Lord, I cannot assent; for by following out my plan, I can search all that is known of the western land of North Somerset – and be sure that every inch of discovery beyond it is so much good work for the safety of the lost Expedition and for the furtherance of geographical and natural history knowledge.<sup>8</sup>

- Richard King, *The Athenaeum*, 11 December 1847

In 1848 the British Government sent out three search missions for John Franklin’s lost expedition, and many more followed in the years after. Franklin’s misfortune became an opportunity for others. But what was the primary purpose of the search missions? The official reason for sending out Arctic exploratory missions in the last part of the 1840s was to determine the fate of Franklin’s expedition, yet it was not necessarily the primary motivator for either the expedition organizers, or the crews on board the expeditions. Richard King’s letter in *The Athenaeum* suggests that finding the Northwest Passage was still a key concern for the British Admiralty.

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<sup>8</sup> Richard King, “The Arctic Expeditions,” *The Athenaeum*, no. 1050 (December 11, 1847): 1273.

King's letter also reveals an important point about the role of science as part of Arctic expeditions in this period. King had been unsuccessful in securing the command of an Arctic expedition after his fallout with the HBC, and this letter was a public request to be given command of an expedition to search for Franklin. If the Northwest Passage was given less priority, King argued, the chance of finding Franklin would be greater. Moreover, by not searching for the passage King would be able to better contribute to Arctic science. This section explores the state of British and Danish naval science generally, and scientific practice in the Arctic specifically, in the period around Franklin's expedition.

Since the end of the Napoleonic Wars, John Barrow had been an important promoter of Arctic exploration. At almost 80 years old and nearing retirement, Barrow was in 1844 eager to promote one last expedition in search of the Northwest Passage. The Franklin expedition was Barrow's last opportunity to solve the mystery that had occupied so much of his life, and it is hardly an exaggeration to describe it as the biggest failure of his career. The last Arctic expedition organized by the British Royal Navy prior to this was led by George Back between 1836 and 1837, eight years before Franklin's expedition. The intention was that Back should only be gone one season, so as to avoid wintering in the Arctic. Perhaps unsurprisingly, this plan did not work out and Back's ship the *Terror* froze in. When they finally were able to escape in July 1837, Back turned back home in the severely ice-damaged ship. In between Back's and Franklin's expeditions, the HBC organized the Dease-Simpson expedition discussed in chapter two. In addition, the British Admiralty sent James Clark Ross to Antarctica in the *Terror* and *Erebus*. While Back's

expedition had been unsuccessful, to say the least, the HBC-organized Dease-Simpson expedition had charted much of the last unknown coastline. Barrow believed that there was an unmapped coastline between Melville Island and the Bering Strait, and that this could, with the current state of geographical knowledge, readily be charted, and the Northwest Passage completed. However, the George Back expedition had made it difficult to gather enough support for another venture from the Lords of the Admiralty, the sailors, or the general public. In 1843 James Clark Ross returned from a successful three-year expedition to the Antarctic. Following this successful expedition, Barrow submitted in December 1844 his “Proposal for an attempt to complete the discovery of a North-West Passage” to Lord Haddington, First Lord of the Admiralty, who accepted the proposal.

In his “Proposal”, Barrow drew clear lines between the search for the Northwest Passage and scientific progress:

There is a feeling generally entertained in the several scientific societies, and individuals attached to scientific pursuits, and also among officers of the navy, that the discovery, of a passage from the Atlantic to the Pacific, round the northern coast of North America, ought not to be abandoned, after so much has been done, and so little now remains to be done; and that with our present knowledge no reasonable doubt can be entertained that the accomplishment of so desirable an object is practicable.<sup>9</sup>

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<sup>9</sup> Charles Richard Weld, *Arctic Expeditions* (London: John Murray, 1850), 18.

Arctic explorations, Barrow argued, had contributed to the development of valuable industries such as cod fishery and whale fishery. When it came to explorations, “enlightened minds”, Barrow stated, knew that the result of “knowledge” was “power”.<sup>10</sup> Barrow also invoked the interest in geo-magnetism as a reason to continue Arctic explorations, in addition to advances in geography and hydrography. He completed the trinity of arguments by arguing that it was the special privilege and duty of England to complete the search for the Northwest Passage. Money, science, and national power, those were the reasons Barrow used to promote one final attempt at finding the passage.<sup>11</sup>

While Barrow was lobbying to organize another expedition, continental Europe was experiencing a period of unrest following the French July Revolution in 1830. Charles X was forced to abdicate, and uprisings throughout Europe including Poland, Italy and Belgium followed the July Revolution. In Denmark there was widespread dissatisfaction as only around 2.8 % of the population had the right to vote. King Frederik VI made some concession to requests for democratization, with the establishment of four Assemblies of the Estates of the Realm introduced by the laws of 28 May 1831, and 15 May 1834. The political restructuring in Denmark also extended to the border with Germany, namely as the first Schleswig-Holstein War between 1848 and 1851. The war concerned the area of southern Denmark and northern German called the Duchies of Schleswig and Holstein. While Denmark officially won the war, the issue was far from resolved, and it was reignited some

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<sup>10</sup> Ibid., 20.

<sup>11</sup> Ibid., 20–22.



fifteen years later with the Second Schleswig War.<sup>12</sup> Democratization and freedom of the press went hand in hand. The Danish Assemblies of the Estates of the Realm made it possible for journals like *Maanedskrift for Litteratur* to discuss politics more critically.<sup>13</sup> However, freedom of the press in Denmark was still severely restricted under the absolute monarchy. As Dan Christensen has shown, Frederik VI was unhappy with what he saw as the liberties various authors were now taking in the press, and he made an example out of Professor of Economics Christian Nathan David (1793-1874) who co-edited *Maanedskrift for Litteratur* and *Fædrelandet*.<sup>14</sup> The Danish Chancellery indicted David and he was suspended from his professorship. Frederik VI established new restrictions on the press, which led to the formation of the Society for the Proper Use of Freedom of the Press led by the physicist and philosopher Hans Christian Ørsted (1877-1851).<sup>15</sup> The liberal movement in Denmark was strengthened throughout the 1840s. The unrest culminated on 5 June 1849, when the new constitution (Grundlov) established constitutional monarchy in Denmark. The establishment of the Danish constitution was in many ways a response to the 1848 Revolution in France where King Louis Philippe abdicated and the French Second Republic was established. The new press law of 1837 in Denmark was harsh and restrictive, but the Society for the Proper

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<sup>12</sup> Ebbe Kühle, *Danmarks Historie i Et Globalt Perspektiv* (Denmark: Gyldendal, 2008), 178–85; Ole Feldbæk, *Danmarks historie* (Denmark: Gyldendal, 2010), 185–301.

<sup>13</sup> Dan Ch Christensen, *Hans Christian Ørsted: Reading Nature's Mind* (Oxford: Oxford University Press, 2013), 483.

<sup>14</sup> *Ibid.*, 485.

<sup>15</sup> *Ibid.*, 487; Robert Justin Goldstein, *Political Censorship of the Arts and the Press in Nineteenth-Century* (New York: St. Martin's Press, 1989), 33.

Use of Freedom of the Press played a key role in a series of reforms between 1845 and 1849 that led to more freedom of the press.<sup>16</sup>

As with the British context, a range of factors influenced the growth of scientific and general publishing in nineteenth-century Canada, including changes in print technologies, rapid transatlantic and railway services, and increased literacy.<sup>17</sup> The context for science and scientific publishing in Canada in the nineteenth century was shaped by the political turmoil of that period. While science was a popular topic in the periodical press in Britain, both in specialized journals and general newspapers, this was not the case in Canada.<sup>18</sup> Although there were hundreds of specialized periodicals in print in the second half of the nineteenth century in Canada, only a few of these were dedicated to scientific topics. The editors of the collection, *History of the Book in Canada*, have suggested that this was because it was seen as more prestigious to publish in American and British journals.<sup>19</sup> By the end of the war of 1812 between the British in Canada and Americans, five newspapers were published in Lower Canada and one in Upper Canada.<sup>20</sup> By 1836 there were fifty in total, with the numbers expanding rapidly in the 1840s and 1850s.<sup>21</sup>

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<sup>16</sup> Goldstein, *Political Censorship of the Arts and the Press in Nineteenth-Century*, 33.

<sup>17</sup> George Fetherling, *The Rise of the Canadian Newspaper* (Toronto: Oxford University Press, 1990). Preface

<sup>18</sup> Bertrum MacDonald, "To Govern, Inform, and Persuade: Government as Author," in *History of the Book in Canada: 1840-1918*, ed. Patricia Fleming, Yvan Lamonde, and Fiona Black, vol. 2 (Toronto, Buffalo, London: University of Toronto Press, 2005), 186–87.

<sup>19</sup> Merrill Distad, "Newspapers and Magazines," in *History of the Book in Canada: 1840-1918*, ed. Patricia Fleming, Yvan Lamonde, and Fiona Black, vol. 2 (Toronto, Buffalo, London: University of Toronto Press, 2005), 301.

<sup>20</sup> Fetherling, *The Rise of the Canadian Newspaper*, 11.

<sup>21</sup> *Ibid.*, 12.

Fetherling has argued that one reason why newspapers grew in numbers during the mid 1800s was because each population centre had a party press.<sup>22</sup> The context for scientific publishing was different in the national contexts examined in this chapter, yet there was an important similarity, namely the increasing use of the periodical press as part of establishing scientific and cultural authority - in spite of war and restrictions on freedom of the press. This chapter focuses on the British and Danish context for Arctic explorations, but the links between the publishing industry, science, and nation building continue as a significant theme in the next chapter, which focuses on the period around and following Canadian Confederation in 1867.

While Britain was not experiencing wars within its own borders, the British Empire was engaged in conflicts throughout the world including the First Opium War (1839-42), and the First (1839-1842) and Second (1848-49) Anglo-Afghan War. There was also conflict and political unrest in Canada. In 1837 there were rebellions in both Lower Canada (present day Quebec) and Upper Canada (present day Ontario). While the British government defeated the rebellions, they ultimately led to greater autonomy in the region, and in 1841 Lower and Upper Canada were combined under the United Province of Canada. British North America covered a vastly larger area than the United Province of Canada, from the Atlantic to the Great Lakes while the HBC still enjoyed a trade monopoly and control over Ruperts Land. As discussed in chapter two, the British Navy was slow to adopt steam technology. John Ross' and Felix Booth's adventure with steam had failed to show the value of the technology for Arctic travel. However, as Daniel Headrick has shown, steam

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<sup>22</sup> Ibid., 78-79.

technology became a valuable aid for the British Empire. Steam was, Headrick argues, both the goal and incentive for the British takeover of the Middle East, to gain control of the Red Sea as a route to India.<sup>23</sup> Steamboats were also central in the Opium Wars and the 'Scramble for Africa'. With the Franklin expedition, the British government was ready to try steam technology in the Arctic.

Both *Erebus* and *Terror* were fitted with steam engines. Rather than custom building the engine, an old engine from a locomotive from the London & Croydon Railway was refitted into the ships. The Admiralty first approached James Clark Ross who had just returned from the Antarctic, but he was not interested in another expedition to the Arctic. Franklin volunteered his services, and though he was 59 years old, 'the man who ate his boots' was chosen for the expedition. Franklin originally had 134 men with him, including the experienced Arctic and Antarctic sailors Francis Crozier (b.1796) and James Fitzjames (b.1813). The ships *Terror* and *Erebus* had been enforced to withstand thick ice and had previously been used by James Clark Ross on his Antarctic expedition. The intention was that Franklin's expedition should be completed in a season. Aside from steam engines, other measures to ensure the success of the expedition were taken, including further strengthening of the ships, and a large store of food supplies including 8000 tins with preserves such as cooked meat and soup, in case they would need to winter in the Arctic. In the fall of 1847 it had become clear that in spite of these measures Franklin and his crew were lost. The *Terror* and *Erebus* left England on 19 May

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<sup>23</sup> Headrick explores these themes in, Headrick, *Power over Peoples*; Daniel R. Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century* (New York: Oxford University Press, 1981).

1845, and reached Godhavn on Disko Island in Greenland on 4 July. They continued through Barrow's Straits and are believed to have wintered at Beechey Island.

There was much geopolitical unrest in the 1830s and 1840s, but also increasing international collaboration. In particular, significant advances in geomagnetism were made through international collaboration on terrestrial magnetic observations. The enthusiasm behind this is well captured in the designator, the 'magnetic crusade'.<sup>24</sup> Geomagnetism was of great importance to navigation, as establishing a theory for the Earth's magnetic field could explain the long-observed variations in the compass. As further discussed in the previous chapters, improvements from these ventures included the bettering and standardization of instruments such as the magnetic compass and dip circle. For example, aside from geography and trade, the central focus of the Franklin expedition was on geomagnetism. Observations were made and shared between multiple countries - including Britain, France, Prussia, and the United States - and carried out both in the Arctic and Antarctic.<sup>25</sup> However, as Marc Rothenberg has argued, "the Magnetic crusade was ... more of a limited international cooperative venture rather than a true collaboration."<sup>26</sup> While a full analysis of the magnetic

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<sup>24</sup> Christopher Carter, "Magnetic Fever: Global Imperialism and Empiricism in the Nineteenth Century," *Transactions of the American Philosophical Society* 99, no. 4 (2009): i-168; John Cawood, "The Magnetic Crusade: Science and Politics in Early Victorian Britain," *Isis* 70, no. 4 (1979): 493-518; Levere, *Science and the Canadian Arctic*; Edward J. Larson, "Public Science for a Global Empire: The British Quest for the South Magnetic Pole," *Isis* 102, no. 1 (2011): 34-59.

<sup>25</sup> For a thorough overview, see Launius, Fleming, and DeVorkin, *Globalizing Polar Science*.

<sup>26</sup> Rothenberg, "Making Science Global? Coordinated Enterprises in Nineteenth-Century Science," in *Globalizing Polar Science: Reconsidering the International Polar*

crusade is beyond the scope of this study, it is important to draw out that throughout the nineteenth century there was a tension between nationalism and attempts at international scientific partnerships in the Arctic, as throughout the Globe.<sup>27</sup> Moreover, the efforts to trace terrestrial magnetism were inherently Humboldtian in nature. Nancy Stepan's discussion of tropical nature and Alexander von Humboldt can usefully be extended to a discussion of the Arctic. As discussed in the introduction to this thesis, Humboldt's idea of a universal science, *physique du monde* (physics of the globe) had a long-lasting influence on natural history, in particular for traveling naturalists. Humboldt believed that the key to revealing the unity of nature was precise measurement and clear representation.<sup>28</sup> Tropical nature, Stepan argued, "was an imaginative construct as much as it was an empirical

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*and Geophysical Years*, ed. Roger D. Launius, James Rodger Fleming, and David H. DeVorkin (Palgrave Macmillan, 2010), 27.

<sup>27</sup> For more on the question of international collaboration and the magnetic crusade, see Jessica Ratcliff, *The Transit of Venus Enterprise in Victorian Britain* (London, Brookfield: Pickering and Chatto, University of Pittsburgh Press, 2008), 24–25; Maurice Crosland, *Science Under Control: The French Academy of Sciences 1795-1914* (New York, Cambridge: Cambridge University Press, 1992), 377; John Cawood, "Terrestrial Magnetism and the Development of International Collaboration in the Early Nineteenth Century," *Annals of Science* 34, no. 6 (November 1, 1977): 551–87; Rothenberg, "Making Science Global? Coordinated Enterprises in Nineteenth-Century Science"; Christopher Carter, "Going Global in Polar Exploration: Nineteenth-Century American and British Nationalism and Peacetime Science," in *Globalizing Polar Science: Reconsidering the International Polar and Geophysical Years*, ed. Roger D. Launius, James Rodger Fleming, and David H. DeVorkin (Palgrave Macmillan, 2010), 86–105.

<sup>28</sup> David Philip Miller and Peter Hanns Reill, *Visions of Empire: Voyages, Botany, and Representations of Nature* (Cambridge: Cambridge University Press, 2011), 267. The term 'Humboldtian science' was coined by Susan Faye Cannon, *Science in Culture: The Early Victorian Period* (New York, Folkstone: Science History Publications, Dawson, 1978). For a recent work on Humboldt and modern environmentalism, see Andrea Wulf, *The Invention of Nature: Alexander Von Humboldt's New World*, First American edition (New York: Alfred A. Knopf, 2015).

description of the world.”<sup>29</sup> Similarly, the Arctic as a construct was intertwined with perceptions of the Arctic explorer. The parallel between the state of Arctic science and Alexander von Humboldt’s science is particularly apt considering Humboldt’s preoccupation with the economy of nature.

As was the case for the early HBC expeditions discussed in chapter two, science played a central role in justifying the value of the search missions, especially when they found no, or limited, traces of Franklin. The economist Oliver Williamson famously described opportunism as “self-interest seeking with guile.”<sup>30</sup> The two key aspects to Williamson’s transaction cost economics are opportunism and asset specificity.<sup>31</sup> Williamson’s discussion of opportunism and economic actors is similar to the ‘opportunism-in-context model’ developed by Andrew Pickering.<sup>32</sup> The concept of opportunism, Pickering argues, can be used to consider how researchers made use of their available resources in different contexts. Williamson’s and Pickering’s emphasis on the role of opportunism can usefully be extended to Arctic exploration in the post-Franklin era. Franklin was the opportunity, but the goal was, as before, intertwined in economy, glory, and power. While finding the lost Franklin expedition became the official reason for sending out expeditions to the Arctic, it

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<sup>29</sup> Stepan, *Picturing Tropical Nature*, 11.

<sup>30</sup> Oliver E. Williamson, *The Economic Institutions of Capitalism* (New York, London: Free Press, 1985), 30.

<sup>31</sup> For a detailed discussion of Williamson’s work, see: Paul C. Godfrey and Charles W.L. Hill, Jr, “The Philosophy of Science and the Problem of Unobservables in Strategic Management Research,” in *Handbook of Strategic Management*, ed. Jack Rabin, Gerald J. Miller, and W. Bartley Hildreth, 2nd revised and expanded edition (New York, Basel: Marcel Dekker, 2000), 229.

<sup>32</sup> Andrew Pickering, *Constructing Quarks: A Sociological History of Particle Physics* (Chicago: University of Chicago Press, 1999), 13.

was not the only motivating factor. The lost Franklin expedition afforded new opportunities for Arctic exploration, and, as shown through the next sections, it influenced the way the Arctic and the Arctic explorer was represented.

This chapter examines expeditions organized both by the British Government and Lady Franklin, but in all instances the 'Patron' was effectively Lady Franklin. Gregory Cushman has argued that "the methodological preoccupation with travel and precision measurements associated with Humboldtian science served to establish patron-client relationships between Humboldt and his disciples that aggrandized the scientific reputations of both parties, even as it served a technocratic political program aimed at placing enlightened, globe-trotting scientists in positions of power".<sup>33</sup> Lady Franklin was incredibly successful at establishing and maintaining support for the search missions, both from the broader British public, individual governmental, and naval figures, as well as from the scientific community. The opportunistic use or repurposing of science gives indications as to which tropes were considered most effective for establishing scientific credibility. Why and how could the search for Franklin continue after Rae's report? Rae's report that the men had resorted to cannibalism before they died was met with fierce resistance, as cannibalism went fundamentally against the idea of the imaginative construct of the Arctic explorer.

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<sup>33</sup> Gregory Cushman, "Humboldtian Science, Creole Meteorology, and the Discovery of Human-Caused Climate Change in South America'.," ed. James Rodger Fleming and Vladimir Jankovic, *Osiris*, Revisiting Klima, 26, no. 1 (2011): 22–23.



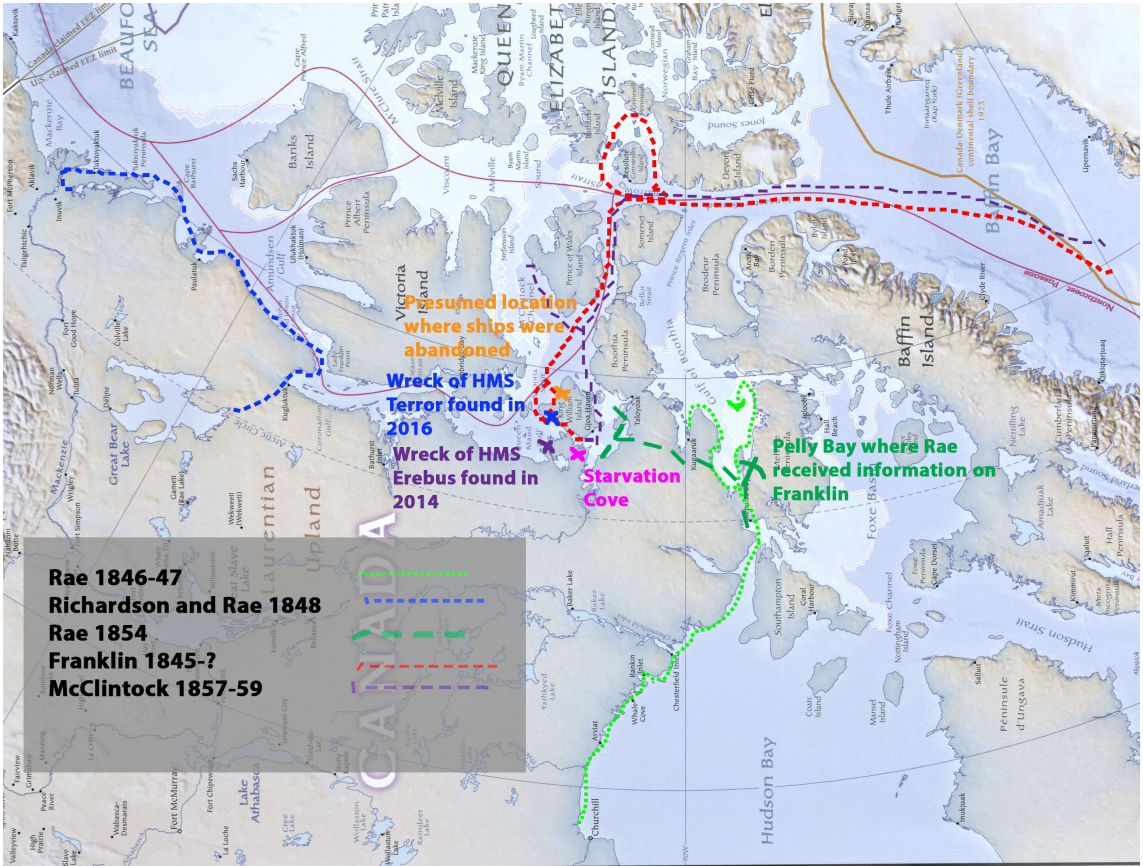


Figure 18 Overview of expedition routes and associated areas of interest. Maps originally produced by the U.S. Central Intelligence Agency, my edits

As this chapter shows, there was a conflict in the responses to Rae that affected how activities during the search missions were represented. On the one hand, the part of Rae's report that described what had happened to the expedition was brushed to the side, because it was based on second-hand information derived from Inuit. On the other hand, the fact that Rae had determined geographically, again with the help of Inuit, where remains from the Franklin expeditions could be found, was used as a justification to send out more expeditions. This dichotomy had a significant impact on the representation of the Arctic expeditions and, as this chapter shows, the lost Franklin expedition afforded many opportunities for Arctic expeditions, and scientific activity was a central way to establish cultural authority as an Arctic explorer.

## **2. A Gentlemanly Arctic explorer: John Richardson does not find Franklin**

The goal of the Rae-Richardson expedition was to ascertain the fate of the Franklin expedition and survey the area between the Mackenzie and Coppermine Rivers, and the shores of Victoria and Wollaston Lands. The official instructions from the British Admiralty did not include scientific objectives the way they had during previous expeditions. Ted Binnema has rightly pointed out that "perhaps it would seem insensitive to order men to botanize on a rescue mission".<sup>34</sup> Yet Richardson did not lose out on the opportunity to undertake research while in the

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<sup>34</sup> Binnema, *Enlightened Zeal*, 160.

Arctic. As he had travelled through the Arctic before, he was well aware of the research possibilities there, and well prepared to undertake them. As Rae and Richardson did not find Franklin - and Richardson left without examining the entire area they had intended - Richardson focused on their scientific achievements in his narrative. This section will explore Richardson's narrative within the context of the debates over the HBC's Royal Charter. Richardson's research focus was broad, and included ethnographic observations, linguistics, geography, climate, and the natural resources available in the regions surveyed. Richardson's narrative reveals that although the Admiralty had not explicitly stated scientific goals, natural history and the related economic possibilities were the key results from the expedition.

The Rae-Richardson expedition was organized by the British Admiralty, but it was more similar to the low budget expeditions organized by the HBC, than the large expeditions the government usually sent out. However, it still retained a key feature of the expeditions organized by the British Admiralty, namely the focus on gathering extensive knowledge on natural history. Compared to the Dease-Simpson expedition where they surveyed an impressive amount of land, but did very limited scientific observations outside of geography, Rae and Richardson carried out extensive experimentation, cataloguing, and collecting. Theirs was a low budget but comprehensive examination of the Arctic. It was also an opportunistic venture. Richardson in particular carried out extensive scientific measurements and



Figure 19. John Richardson. Image credit Wellcome Library, London image no. 8201i<sup>35</sup>



Figure 20. John Rae. Image credit Wellcome Library, London image no. 8059i<sup>36</sup>

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<sup>35</sup> E. Finden and T. Phillips, *Portrait of Sir John Richardson*, 1828, no. 8201i., Wellcome Library, R. Burgess, *Portraits of doctors & scientists in the Wellcome Institute*, London 1973, no. 2483.1.

<sup>36</sup> J. Scott, *Portrait of John Rae by J. Scott*, 1858, 1858, 8059i, Wellcome Library, R. Burgess, *Portraits of doctors & scientists in the Wellcome Institute*, London 1973, no. 2419.1.

observations, yet he returned to England without surveying the planned areas. It was Rae who carried out the primary exploration and surveying, while they were both in the Arctic, and Richardson returned to England when Rae continued out to Wollaston Land. The Rae-Richardson expedition shows the tension between the stated aim of the expedition, finding Franklin, and what was actually accomplished with the expedition. It is also an example of an expedition where the British Admiralty utilized the HBC's repertoire of techniques for travelling in the Arctic.

Richardson was a seasoned Arctic explorer and surgeon naturalist. He was also a friend of Franklin, and accompanied him on both the Coppermine Expedition and Franklin's second expedition, as examined in the previous chapter. Richardson received several honours and awards, and was knighted in 1846. After studying medicine in Edinburgh, he worked as a surgeon at the Dumfries and Galloway Royal Infirmary before he, as a fellow of the Royal College of Surgeons, secured employment with the British Navy. He was stationed at sea during the Napoleonic Wars, after which he earned his M.D. from the University of Edinburgh in 1816. Richardson was a prolific writer, and published numerous works from his Arctic explorations. Of particular significance was the *Fauna Boreali-Americana* which was edited by Richardson. According to R.E. Johnson, the *Fauna Boreali-Americana*, and the *Flora Boreali-Americana* edited by Professor of Botany William Jackson Hooker (1785-1865), established the new field of Arctic geographical natural history.<sup>37</sup> Suzanne Zeller has pointed out that this comprehensive account of North American

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<sup>37</sup> R.E. Johnson, "Biography – RICHARDSON, Sir JOHN – Volume IX (1861-1870) – Dictionary of Canadian Biography," accessed July 22, 2016, [http://www.biographi.ca/en/bio.php?id\\_nbr=4670](http://www.biographi.ca/en/bio.php?id_nbr=4670).

fauna and flora was Humboldtian in its ambition to relate climate to the geographical diffusion and migration of species.<sup>38</sup> His expedition with Rae was his last, and he retired from active duty with the British Navy in 1855.

Rae studied medicine in Edinburgh for a total of four years, first at the university followed by a period at the Surgeon's Hall. He was 20 years old when he entered the service of the HBC, as surgeon on board a HBC supply ship.<sup>39</sup> Rae's first trip with the HBC was prolonged when the ship was blocked by ice in the Hudson Strait, and they had to winter near Moose Factory. Rae was remarkably well-suited for life in the Canadian Arctic. He was born in the Orkney Islands, and Rae's biographers have linked his upbringing in Orkney to why he was so well-prepared for his work with the HBC. Rae himself held Orkneymen in high esteem, as evident in this quotation describing a situation where the rough weather of the Arctic was proving troublesome for some of the English men in his party:

I here saw the benefit of the precaution I had taken to have some Orkneymen with me, for it was evident the others (although as good fellows as could possibly be wished) knew nothing about the management of a boat in such weather. <sup>40</sup>

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<sup>38</sup> Suzanne Zeller, "Humboldt and the Habitability of Canada's Great Northwest," *Geographical Review* 96, no. 3 (2006): 387.

<sup>39</sup> The ship was entitled the Prince of Wales

<sup>40</sup> John Rae, *Narrative of an Expedition to the Shores of the Arctic Sea, in 1846 and 1847*, 1850, 21.

The Orkney Islands lie further north than Fort Churchill, an outpost of the fur trade on the frozen shore of Canada's Hudson Bay. These islands supplied large number of employees for the Hudson's Bay Company. During his stay in Moose Factory, George Simpson, the Governor-in-Chief of the HBC territories, offered Rae to become a surgeon and clerk at Moose Bay, which Rae accepted.

There were many similarities between Richardson and Rae. First and foremost, they were both Scottish and trained in Edinburgh. While at the University of Edinburgh, they both attended lectures by the geologist Robert Jameson. In 1817 Robert Jameson, Professor of Natural History at the University of Edinburgh, published a set of instructions in the *Edinburgh Magazine and Literary Miscellany* that listed the desired artefacts for the university museum. It included explanations for how to record, collect, and prepare specimens from categories such as zoology, ethnography, and mineralogy. Adrian Desmond and John Moore noted in *Darwin's Sacred Cause* (2009) that Jameson's course was "packed with the next generation of travellers: surveyors, civil engineers and army surgeons."<sup>41</sup> Jameson put great emphasis on the importance and role of naturalists going abroad, and his lectures were intended to prepare students for voyages, shaping students to become traveling informants. The HBC had faced a lot of criticism in the period leading up to 1859 when their charter was up for renewal. One of the arguments made by the HBC to maintain their monopoly was that their territories were unfertile which made them unsuitable for settlement. Their only value, they argued, was in the fur trade.

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<sup>41</sup> Adrian Desmond and James Moore, *Darwin's Sacred Cause: Race, Slavery and the Quest for Human Origins* (London: Penguin Books, 2009), 28.

The possibility of establishing farms and securing food products was of no small importance for the possibility of settlements. In his narrative, Richardson detailed what types of crops and vegetables could flourish at different latitudes, in addition to the availability of game, and the valuable mineral resources.<sup>42</sup> As a type of travelling informant, Richardson's research – which he shared with the British Government who funded the expedition – played into a large and significant political question, namely the governing of British North America.

In the introduction to the edited collection, *The Making of the Geological Society London*, Simon Knell argued that, “the breathtaking intellectual transformation of geology in the early nineteenth century was paralleled, in ways now largely invisible to us, by equally radical shifts in how the science was socialized.”<sup>43</sup> George Bellas Greenough (1778-1856), the first president of the society (1807-1813), had an important role in shaping the policies of the early Geological Society of London (f. 1807).<sup>44</sup> In particular, he was committed to establishing a far-reaching network of geological informants. Richardson was not a fellow of the Geological Society, but Rae and Richardson were both part of this academic atmosphere that encouraged travel for the advancement of natural history. Richardson went into great detail with geology in his narrative. According to Trevor Levere, Richardson followed a modified Wernerian scheme for stratigraphy

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<sup>42</sup> Trevor Levere has pointed out that this was linked to the nascent discipline of biogeography, Levere, *Science and the Canadian Arctic*, 176–77. For more on biogeography and collecting, see Janet Browne, *The Secular Ark: Studies in the History of Biogeography* (New Haven: Yale University Press, 1983).

<sup>43</sup> Lewis, 2007, 1

<sup>44</sup> Rudwick, 1963, 325



taught by Jameson in Edinburgh.<sup>45</sup> Abraham Gottlob Werner (1749-1817) was one of the most influential geologists during the early Industrial Revolution. Jameson, who taught both Rae and Richardson, studied with Werner in 1800 and established the Wernerian Natural History Society in Edinburgh in 1808. Jameson's teaching likely had a great influence on both Richardson and Rae. In particular, Richardson's narrative shows the focus on travelling geologizing and efforts to highlight the importance of the mineral resources that were available in the region. Werner's long lasting influences within geology have been well established. Significantly, Rachel Laudan argued against the tradition in the history of geology that positioned Werner's theory of the stratification of the Earth's crust as the last stumbling block of modern geology. Instead, Laudan gave Werner a central role in the establishment of modern geology, and emphasized the dissemination of his methodological and theoretical preferences through Europe in what she termed the 'Wernerian radiation'. According to Laudan, the essence of Werner's teachings was the concept of formations and the formulation of a program of historical geology rather than the issue of basalt lithogenesis.<sup>46</sup> As Mott Greene has further argued, above everything else Werner's primary focus was "the empirical establishment of regular

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<sup>45</sup> Levere, *Science and the Canadian Arctic*, 109. Werner developed a theory of the stratification of the Earth's crust that had as its basis that the earth had been covered fully by an ocean that gradually receded. Because of the emphasis of the universal ocean, his theory has been termed Neptunism. Werner's scheme created an immediate controversy about the origin of basalt that became the foundation of the Neptunist-Plutonist controversy in the 18<sup>th</sup> and early 19<sup>th</sup> Century geological circles. Richardson worked within this framework of geological thought, and Trevor Levere has pointed out that this was why Richardson wrongly described the basalt in the Copper Mountains as aqueous in origin

<sup>46</sup> Rachel Laudan, *From Mineralogy to Geology: The Foundations of a Science, 1650-1830* (Chicago: University of Chicago Press, 1987).

successions of strata wherever they appeared and the immediate employment of the knowledge of that succession to serve practical and economic ends.”<sup>47</sup>

In Richardson’s narrative, a key focus was to determine the locations of coal rich areas. Richardson’s detailed account of the geological features of the surveyed areas highlighted the possibilities for coal extraction as well as other valuable minerals “of far greater value than all the returns which the fur trade can ever yield.”<sup>48</sup> Determining where those areas, which were economically important for coal and mineral resources, were of considerable significance. For example, Richardson described the southern shore of the Mackenzie River as belonging to the Erie division of the New York system as categorized as part of the Silurian system by American geologists and as part of the Devonian – carboniferous – series by their English counterparts.<sup>49</sup> Martin Rudwick has notably shown that the issue of the Wernerian notion of universal formation of different lithologies (the physical characteristics of a rock or stratigraphic layer) was a central feature in the decade-long controversy in British geology over the Devonian system. Originally used to categorize any rock or fossil found in Devonshire, the meaning of ‘Devonian’ had transformed by the time of the virtual consensus among English and international

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<sup>47</sup> Greene, *Geology in the Nineteenth Century*, 43–44.

<sup>48</sup> John Richardson, *Arctic Searching Expedition: A Journal of a Boat-Voyage through Rupert’s Land and the Arctic Sea, in Search of the Discovery Ships under Command of Sir John Franklin. With an Appendix on the Physical Geography of North America*, vol. 2 (Longman, Brown, Green and Longmans, 1851), 162.

<sup>49</sup> John Richardson, *Arctic Searching Expedition: A Journal of a Boat-Voyage Through Rupert’s Land and the Arctic Sea, in Search of the Discovery Ships Under Command of Sir John Franklin. With an Appendix on the Physical Geography of North America*, vol. 1 (Longman, 1851), 116, 152; Richardson, *Arctic Searching Expedition*, 1851, 2:167 “D.”

geologists in the 1840s to denote a fossil, rock or event that had originated during a specific period. There was a large economic factor related to this, in creating geological maps for finding coal deposits. Furthermore, Richardson believed that there was more iron chromate in its primitive porphyry form in North America than in England or continental Europe.<sup>50</sup> This mineral was again very valuable.

The link between the Erie division, the Silurian, and the Devonian series was not universally accepted, and was debated throughout the nineteenth century. For example, the Canadian geologist, palaeontologist and administrator John William Dawson (1820-1899) devoted much research to determining that the Erie Division, or Erian period, in North America should be the typical region of the Devonian.<sup>51</sup> Geological research, how the strata was classified, was fundamentally contingent on the analytical framework of the observer. While Richardson, in his previous writings, had followed a modified Wernerian framework for analyzing geological data, there was no need to address those issues in *Arctic Searching Expedition*. Richardson did not refer to the Wernerian analytical framework for categorizing strata but still primarily made use of the classical Wernerian approach of valuing physical characteristics of rocks and stratigraphy over specific fossils or paleontological evidence following William Smith. Yet Richardson also paid attention to fossils, and, for example, noted that the Pentamerus limestone was

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<sup>50</sup> Richardson, *Arctic Searching Expedition*, 1851, 1:327.

<sup>51</sup> Susan Sheets-Pyenson, "‘Pearls before Swine’: Sir William Dawson’s Bakerian Lecture of 1870," *Notes and Records of the Royal Society of London* 45, no. 2 (1991): 182.

named from its characteristic fossil.<sup>52</sup> Richardson also included illustrations of fossil plants in his narrative, which was reflective of changes within the broader geological community. From this perspective, the ‘Wernerian radiation’ was alive and well in the *Arctic Searching Expedition*. In other words, Richardson was drawing on the program for travelling geologist he was taught in Edinburgh by Jameson. Through figures like Richardson and their narratives, the Wernerian approaches became a central part of geologizing in the British Empire.

In addition to surveying for valuable minerals, Richardson also accounted for the types of food resources that were available or could be farmed at different latitudes. While potential financial benefits of the Northwest Passage as a trading route were doubtful, there was another not insignificant economic motivator to continue explorations of the northern shoreline, namely the discovery of new fishing grounds.<sup>53</sup> This was linked to his discussion on climatology. During the expedition, Richardson measured the temperature and compiled a comparative table of temperatures.<sup>54</sup> As in the *Fauna Boreali-Americana* and *Flora Boreali-Americana*, Richardson’s climatological observations followed a Humboldtian spirit. Particularly, he made use of Humboldt’s concept of isothermal lines which he introduced in his 1817 work, *Des Lignes Isothermes et de la distribution de la chaleur sur le glob*.<sup>55</sup> Richardson’s comparative table included the mean annual temperature, isotherms, mean summer temperature, *isothæral*, and the mean winter temperature,

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<sup>52</sup> Richardson, *Arctic Searching Expedition*, 1851, 2:167 footnote 14.

<sup>53</sup> Levere, *Science and the Canadian Arctic*, 199.

<sup>54</sup> Richardson, *Arctic Searching Expedition*, 1851, 2:248–57.

<sup>55</sup> Alexander von Humboldt, *Des Lignes Isothermes Et De La Distribution De La Chaleur Sur Le Globe* (Perronneau, 1817).

*isothermenal*.<sup>56</sup> For his comparative table of temperatures, Richardson made use of the meteorologist Heinrich Wilhelm Dove's temperature tables published in the 'Report of the British Association' in 1847.<sup>57</sup> Humboldt and Dove both drew isothermal maps as way to visualize weather patterns.<sup>58</sup> Richardson did not include this type visual representation of the climate, but it followed the key Humboldtian ideal, as Dettelbach has described it, of a "universally legible nature."<sup>59</sup> Cataloguing the climate in the Arctic, as in other places in the British Empire, was linked to imperial expansion as it gave indications to where it was possible to settle. As Katherine Anderson has shown, meteorology and state control were closely intertwined in the British imperial context, and it was for medical and topographical reasons that the British had interest in meteorology in India.<sup>60</sup> For Canada in particular, Suzanne Zeller has linked the changing political situation in the HBC governed territories, with Humboldtian isotherms.<sup>61</sup> As Zeller argued "Humboldtian science thus heated up support for Canada's annexation of Rupert's Land as natural, perhaps even inevitable."<sup>62</sup> Was it possible to have a flourishing agricultural

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<sup>56</sup> Richardson, *Arctic Searching Expedition*, 1851, 2:258.

<sup>57</sup> *Ibid.*; British Association for the Advancement of Science, *Report of the 17th Meeting of the British Association for the Advancement of Science (Oxford)* (London: Taylor & Francis, 1848), 373–76.

<sup>58</sup> Paul N. Edwards, *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming* (Cambridge Massachusetts: MIT Press, 2010), 31.

<sup>59</sup> Michael Dettelbach, "The Face of Nature: Precise Measurement, Mapping, and Sensibility in the Work of Alexander von Humboldt," *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 30, no. 4 (1999): 486.

<sup>60</sup> Anderson, *Predicting the Weather*, 257.

<sup>61</sup> Zeller, "Humboldt and the Habitability of Canada's Great Northwest," 392.

<sup>62</sup> *Ibid.*

expansion into Rupert's Land? This was the key question Richardson addressed in his section on climatology.

In addition to the comparative table of temperatures, Richardson included tables for the geographical distribution of plants and the number of species in different zones.<sup>63</sup> From his observations, Richardson made several conclusions as to the suitability for various agricultural choices. He divided North America into five groups, according to their physiognomical character of vegetation:

If we trace any one of these districts northwards, making due allowance for the varying altitude of the country above the sea, we may ascertain the effect of increase of latitude on the vegetation of that meridian; but if we compare one district with another, we must keep in view the climatological fact of the rise of the isothermal lines in proceeding westward.<sup>64</sup>

This division helped to account for variations in the presence of vegetation and the further possibilities for its cultivation at the same latitude in different places. Significantly, Richardson noted that while there may be fewer species of plants at high latitudes, the number of plants each individual species produces remains the same. In Rupert's Land, governed by the HBC, there was "dense herbaceous vegetation".<sup>65</sup> Richardson's natural history observations were of significance scientifically, economically, and geopolitically. They implicitly went against the

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<sup>63</sup> Richardson, *Arctic Searching Expedition*, 1851, 2:322-53.

<sup>64</sup> *Ibid.*, 2:271.

<sup>65</sup> *Ibid.*, 2:275.

HBC's arguments that their territories were not suitable for settlement by accounting for the many natural resources in the regions. On the one hand, Richardson distanced himself from making more explicit value judgments of the suitability of the HBC to govern their territories. As such, he wrote that "Without entering into the question of the chartered rights of the Hudson's Bay Company, or the propriety of maintaining a monopoly of the fur, trade, it is my firm conviction, founded on the wide-spread disorder I witnessed in times of competition, that the admission of rival companies or independent traders into these northern districts would accelerate the downfall of the native races."<sup>66</sup> On the other hand, Richardson directly questioned the efficacy of the HBC government. In his description of the Osnaboya (Assiniboia) colony he noted that "the settlement is under the government (it can scarcely be said the control) of a governor, council and recorder, all nominated by the Hudson's Bay Company."<sup>67</sup> Richardson further criticized the ability of the HBC to even enforce their monopoly against attempts by "half-breed settlers, encouraged by some of the colonial merchants and Roman Catholic priests" to "share the fur trade" with the HBC.<sup>68</sup> The HBC, Richardson argued, "do not seem to possess a force adequate to prevent their eventually succeeding in their object."<sup>69</sup> Furthermore, Richardson scolded the HBC for allowing their fur-traders to supply the Indigenous peoples with alcohol.

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<sup>66</sup> Ibid., 2:59.

<sup>67</sup> Ibid., 2:55.

<sup>68</sup> Ibid., 2:58.

<sup>69</sup> Ibid.

Although Richardson held individual HBC officers, including Rae, in high esteem, the portrayal of the HBC's governing of their territories was not very positive. Richardson also exhibited a very negative attitude towards Indigenous peoples in his narrative. *Arctic Searching Expedition* contained extensive ethnographic observations. During his account of what Richardson termed the 'Chepewyan'<sup>70</sup> people, Richardson noted that "they can scarcely be said to esteem truth a virtue."<sup>71</sup> This was significant because Rae and Richardson were interviewing Indigenous informants about whether they had seen any trace of Franklin. In the section entitled 'Interview with Eskimos' that accounted for their conversations with Indigenous peoples regarding the lost Franklin expedition, he argued that "Neither the Eskimos, nor the Dog-rib or Hare Indians, fell the least shame in being detected in falsehood, and invariably practice it, if they think that they can thereby gain any of their petty ends."<sup>72</sup> Richardson's narrative was full of this type of highly negative and derogatory comments towards the Indigenous peoples. The message conveyed was, that they could not be trusted. This was in stark contrast with Rae's *Narrative of an Expedition*, and, as the next section will show, it illustrates the subtle ways the question of who was a trustworthy observer of the Arctic had widespread and unexpected consequences.

It should be clear from the discussion in this section that Richardson had produced an impressive amount of research during the expedition. There was a

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<sup>70</sup> It appears that Richardson used 'Tinnè'/'Chepewyan' as an umbrella term for several groups of peoples in Western Canada. The Chipewyan are an aboriginal Dene people.

<sup>71</sup> Richardson, *Arctic Searching Expedition*, 1851, 2:18.

<sup>72</sup> Richardson, *Arctic Searching Expedition*, 1851, 1:241.



good reason for this. Richardson had largely let Rae undertake the bulk of the surveying for Franklin – the actual object of the expedition. Without speculating further into the motives for either Rae or Richardson to initially undertake the search mission for Franklin, Richardson used it as an opportunity to collect, experiment, and make observations on a broad range of natural history subjects. The expedition lasted only a year, yet Richardson had collected enough material to fill a two-volume narrative with detailed accounts of the Arctic. As this section has shown, Richardson’s portrayal of the Arctic was part of the wider discussion of not only Franklin, but also the governing of the HBC territories. Richardson’s Arctic science had economic and geopolitical implications, and, as the next section will show the differences between the way Richardson and Rae prioritized their time in the Arctic also had a significant implication for the reception of Rae’s report to the Admiralty that brought the first intelligence about the fate of the lost Franklin expedition.

### **3: British heroes do not eat each other: John Rae, Cannibalism, and the question of Inuit testimony**

To that gallant band is now to be added the name of John Rae; who with power of endurance combines excessive fortitude and coolness in the hour of danger. His high moral and physical qualities won the esteem and admiration of Sir

John Richardson, - and the unpretending narrative now before us will tend to confirm the sentiment pre-existing in his favour.<sup>73</sup>

- Anon, *The Athenaeum*, 27 July 1850

Prior to Rae's expedition with Richardson between 1848 and 1849, Richardson undertook an expedition to survey as much uncharted area as possible and determine if Boothia Felix was a peninsula, as part of finding the Northwest Passage. This expedition was suggested already in 1840, and was supposed to have been under the command of Thomas Simpson. Simpson's untimely end, as discussed in chapter two, paused the plans until they were renewed by governor-in-chief of the HBC Territories George Simpson in 1845. Rae published his one and only narrative in 1850, as *Narrative of an Expedition to the Shores of the Arctic Sea, in 1846 and 1847*. The *Athenaeum* was not the only newspaper celebrating Rae's accomplishments. His narrative and his person were generally described as a perfect example of a modest, competent, and brave Arctic explorer. Comparing this to King's thundering criticism of Rae gives a good sense of the impact caused by Rae's report about the fate of the Franklin expedition. In 1855 King published a polemic book *The Franklin Expedition from First to Last*, where he stated that "I had all along associated Dr. Rae with the members of the medical profession who have distinguished themselves as travellers, such as Park, Oudenay, Richardson, McCormick, Daniel, Leichardt, and Kane; but I now find, and I rejoice in the

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<sup>73</sup> "Narrative of an Expedition to the Shores of the Arctic Sea in 1846 and 1847.," *The Athenaeum*, no. 1187 (July 27, 1850): 784

discovery, that he is what he signs himself – as ‘C.F.,’ that is to say a Chief Factor, a *trader* in the service of the Hudson’s Bay Company.”<sup>74</sup> According to King, Rae had now lost all credit as an Arctic explorer and as a man of science. With a starting point in Rae’s *Narrative of an Expedition*, this section examines Rae’s style of exploration and his Arctic science, in combination with the question of who is a trustworthy observer of the Arctic.

George Simpson’s letter of instructions to Rae was included in the narrative and outlined the expected outcome of the expedition.<sup>75</sup> In addition to surveying the shore, Simpson requested that Rae collect natural history information and here his training in Edinburgh would have come in handy. Simpson, who shared Jameson’s emphasis on detailed collection of zoological, geological and ethnographic materials requested that Rae do his “utmost, consistently with the success of [his] main object, to attend to botany and geology; to zoology in all its departments” in addition to hydrography, measurements of temperature, and magnetic observations including aurora borealis and the refraction of light. Furthermore, Rae was to “observe the ethnographical peculiarities of the Esquimaux of the country”.<sup>76</sup> To sum up, as was the case with the Arctic expeditions before his, but in contrast to the later expeditions under the First IPY, as examined in the next chapter, Rae was to collect information on everything. *Narrative of an Expedition* followed the standard format of a personal travel narrative: it gave a chronological day-to-day account of the

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<sup>74</sup> Richard King, *The Franklin Expedition from First to Last* (John Churchill, New Burlington Street, 1855), 124.

<sup>75</sup> Rae, *Narrative of an Expedition to the Shores of the Arctic Sea, in 1846 and 1847*.

<sup>76</sup> *Ibid.*, 15.

voyage as experienced by Rae, and included records of natural history observations that Simpson had requested he make.

Travel narratives such as that of Rae's had several objects: for example, they were aimed at a broad reading audience to make a profit, they functioned as an advertisement for expeditions by stimulating interest in voyages, and they added to the body of knowledge about the natural environment of the region. To fulfil its role as adding to natural history, Rae's narrative also contained an appendix that separately listed observations on natural history made by him and his crew with references to the places in the narrative where the specimen in question was described including: list of Mammalia, Birds, Fishes, Plants, specimens of rocks, dip of the needle, and the meteorological journals. Rae's narrative did not require the reader to have any particular familiarity with the Arctic region. Rae combined observations for latitude and variation of the compass and temperature with descriptions of their living arrangement at Fort Hope. Someone who was interested in variations of the compass could compare the provided measurements with Rae's perceptions of the weather, the game available or the general mood of the party. The more specialist researcher would look at the stylized chart in the appendix of the book. The reader who was not interested in those details could easily ignore them and focus on the potentially more exciting parts, such as accounts of frostbites, hunger, and meetings with Inuit.

While Rae and Richardson should not be considered contrasting figures, a comparison of the differences and similarities in their styles of exploring, writing, and social status, can show how a wide range of factors influenced how the Arctic

was represented. Rae's *Narrative of an Expedition* and Richardson's *Arctic Searching Expedition* were stylistically very similar. Both books were mostly void of the types of rhetorical strategies utilized by other writers to generate interest. As one reviewer in the *Spectator* noted about *Arctic Searching Expedition*, "it is rather a book of important scientific facts and observations than of travel or adventure."<sup>77</sup> Richardson's narrative was, like Rae's, recorded in a day-to-day format, with the scientific experiments and observations woven into the narrative. In addition the narrative's second volume included an appendix with detailed descriptions of the geology of Arctic North America. Richardson and Rae intended to examine the coast between the Mackenzie and Coppermine Rivers, and the shores of Victoria and Wollaston Lands. Rae's expedition was widely commented upon in the periodical press. Rae himself added to this interest, by having a letter describing his voyage published in the periodical press right after his return. The letter was published in both major and minor newspapers, either in its full or abridged version and it is surprising that his personal narrative was not widely reviewed in the periodical press. Advertisements and reviews appeared primarily in the *Athenaeum* (27 July, 1850) and *The Quarterly Review* (March 1853) and *The Examiner* (6 December 1851).<sup>78</sup> It is suggestive that the narrative did not appear more broadly and it opens up several questions: can the lack of attention be linked with a general decline in

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<sup>77</sup> Anon, "Sir John Richardson's Arctic Searching Expedition," *The Spectator* 24, no. 1220 (November 15, 1851): 1096.

<sup>78</sup> Anon, "Narrative of an Expedition to the Shores of the Arctic Sea in 1846 and 1847.," Anon, "Narrative of an Expedition to the Shores of the Arctic Sea, in 1846 and 1847.," *The Quarterly Review* 92, no. 184 (March 1853): 386–421; Anon, "Arctic Searching Expedition.," ed. Leigh Hunt, *Examiner*, no. 2288 (December 6, 1851): 772–772.

interest in travel literature? Conversely, was the publication of Rae's narrative simply just overshadowed by the ever-growing interest in the lost Franklin expedition and Rae's work on this? Richardson's narrative was widely noticed, with long reviews appearing in *The North British Review* (February 1852), *The Athenaeum* (November 29 1851), the *Dublin University Magazine* (April 1852), *The Examiner* (December 6 1851, joint with a review of *Narrative of an Expedition*) and shorter mentions in several other publications.<sup>79</sup> Richardson's narrative dealt directly with the Franklin question, and this could be a significant factor in why it received more attention than Rae's narrative from his previous expedition. As the review in *The Quarterly Review* noted, "It is curiously illustrative of the interest excited by this expedition that Richardson received numerous advances from volunteers desirous of joining him."<sup>80</sup>

The lost Franklin expedition generated a large amount of interest in the middle of the nineteenth century, and indeed has continued to do so today. When Rae finally discovered tangible evidence of the lost Franklin expedition, he was suddenly thrown into a large and very public debate over the correctness of his

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<sup>79</sup> Anon, "Sir John Richardson's Arctic Expedition.," ed. John F. Waller, *Dublin University Magazine* 39, no. 232 (April 1852): 458–76; Anon, "Arctic Searching Expedition.," Anon, "Arctic Searching Expedition: A Journal of a Boat Voyage through Rupert's Land and the Arctic Sea, in Search of the Discovery Ships under Command of Sir John Franklin. With an Appendix on the Physical Geography of North America.," ed. A. C. Fraser, *The North British Review* 16, no. 32 (February 1852): 445–89; Anon, "Arctic Searching Expedition: A Journal of a Boat-Voyage through Rupert's Land and the Arctic Sea, in Search of the Discovery Ships under Command of Sir John Franklin. With an Appendix on the Physical Geography of North America.," *The Athenaeum*, no. 1257 (November 29, 1851): 1246–47.

<sup>80</sup> Anon, "Narrative of an Expedition to the Shores of the Arctic Sea, in 1846 and 1847.," 397.

report, and the value of his evidence. Rae did not discover the fate of the Franklin expedition during a search mission. Rather, he received the intelligence while surveying with the goal of mapping the west coast of Boothia and complete the northern coastline for the HBC. Rae was unable to continue, and on his way from the Boothia region towards Repulse Bay he met a group of Inuit from the Pelly Bay region. From them, Rae obtained both relics belonging to the Franklin expedition, and information about their deaths. Based on this, Rae sent a short report to the British Admiralty dated 29 July 1854. Rae also sent a letter to the George Simpson dated 22 October 1854, which was published in the *Montreal Herald* on 21 October 1854. Without his knowledge, the Admiralty proceeded to send his letter of 29 July to the press. The letter was published in full in multiple newspapers on 23 October 1854.<sup>81</sup> The immediate response to Rae's report was mixed, but three key points can be drawn out: firstly, the area where Franklin's men had been seen was where King had proposed to search, but was rejected by the Government. Secondly, the Admiralty was strongly criticised for not doing enough to save Franklin and his men. As the *Daily News* noted, Rae's discoveries "render more heavy than ever the moral responsibility and the professional guilt of those whose immediate duty it was to rescue a body of gallant men long within reach of help, but now lost to us for ever."<sup>82</sup>

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<sup>81</sup> See for example: Anon, "The Fate of Sir John Franklin," *Illustrated London News*, October 28, 1854, Gale NewsVault; Anon, "The Fate of Franklin," *The Morning Post*, October 23, 1854, Gale NewsVault; Anon, "Probable Fate of Sir John Franklin's Party," *The Morning Chronicle*, October 23, 1854, Gale NewsVault; Anon, "The Fate of Sir John Franklin," *Daily News*, October 23, 1854, Gale NewsVault; Anon, "The Arctic Expedition," *The Times*, October 23, 1854, Gale NewsVault; Anon, "Multiple News Items," *The Standard*, October 23, 1854, Gale NewsVault.

<sup>82</sup> Anon, "The Fate of Sir John Franklin," October 23, 1854.

Thirdly, the extent to which Rae's evidence was sufficient to determine the fate of the Franklin expedition was questioned.

Rae did not find Franklin himself, but based his conclusion about the expeditions' fate on what he was told by Inuit. To what extent this was sufficient evidence became a key point of controversy, and had consequences for Rae's social and scientific standing. The historiography on Rae is full of wildly contrasting accounts of his views of Indigenous peoples in the Arctic. For example, Russel Potter argued while Rae's views of Inuit was not always positive, through "long and direct experience" and "unlike naval explorers, who tended to regard the Inuit as a dirty, uncivilized, and unreliable race, Rae came to respect and admire them, and counted many among them as his personal friends."<sup>83</sup> Rae's biographer Ken McGoogan further argued that during the controversy, and "[a]t considerable cost to himself, Rae stoutly defends the Inuit."<sup>84</sup> By contrast, Janice Cavell described Rae's attitude towards Inuit as much more cynical, noting that Rae "believed the Inuit not so much because he considered them honest as because he considered himself well able to see through them when they lied: surely an exaggerated claim from a man who, for all his long northern experience, had spent relatively little time with these people and did not understand their language."<sup>85</sup> Rae's *Narrative of an Expedition* certainly contained several episodes to support Cavell's interpretation. For example,

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<sup>83</sup> Potter, *Finding Franklin*, 84.

<sup>84</sup> Kenneth McGoogan, *Fatal Passage: The Story of John Rae, the Arctic Hero Time Forgot* (New York: Carroll & Graf Publishers, 2002), 230.

<sup>85</sup> Cavell, *Tracing the Connected Narrative*, 216.



regarding the intelligence of Inuit, Rae described his interpreter Ivitchuk<sup>86</sup>, from Repulse Bay, as “too stupid” to think about informing Rae about canine preferences for different types of seal fat before it was too late.<sup>87</sup> Regarding truthfulness, Rae, for example, described how a man named Ak-kee-ou-lik<sup>88</sup> told a lie that he “did not believe at the time, and I afterwards found out that it was false.”<sup>89</sup> While it is important to acknowledge that Rae was still acting and writing from a standpoint of Eurocentric racial stereotypes - as both Cavell and Potter point out - it is also significant to draw out that Rae differed from the majority of British Arctic explorers on these issues, in particular because it affected both his Arctic science and the later controversy over the fate of the Franklin expedition. As Potter further argued, Rae “was accused of accepting second-hand evidence from a savage people, a race with a ‘domesticity of blood and blubber’ (in Dickens’s words).”<sup>90</sup>

Dickens’s criticisms of Rae, in part orchestrated by Lady Franklin, had as their premise that Inuit were amoral and untrustworthy, and that Rae was wrong to rely on their testimony. It is well known that Dickens’s work was full of racist and anti-Semitic caricatures, embedded within an overarching belief in the moral superiority of the British and righteousness of the Empire.<sup>91</sup> Dickens’s two-part essay entitled

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<sup>86</sup> No known vital dates

<sup>87</sup> Rae, *Narrative of an Expedition to the Shores of the Arctic Sea, in 1846 and 1847*, 126.

<sup>88</sup> No known vital dates

<sup>89</sup> Rae, *Narrative of an Expedition to the Shores of the Arctic Sea, in 1846 and 1847*, 88.

<sup>90</sup> Potter, *Finding Franklin*.

<sup>91</sup> See for example: Priti Joshi, “Race,” in *Charles Dickens in Context*, ed. Sally Ledger and Holly Furneaux (Cambridge: Cambridge University Press, 2011), 292–300; Alana Lentin, *Racism and Ethnic Discrimination* (New York: The Rosen Publishing

“The Lost Arctic Voyagers” for his own weekly magazine *Household Words* (est. 1850) was a tour-de-force of such stereotypes.<sup>92</sup> In part one of the article, Dickens argued that Rae’s testimony was founded on the mistaken belief that his own encounters with Inuit could give indications as to how Inuit would behave if they were in a position of power:

It is impossible to form an estimate of the character of any race of savages, from their deferential behaviour to the white man while he is strong. ... We believe every savage to be in his heart covetous, treacherous, and cruel; and we have yet to learn what knowledge the white man – lost, houseless, shipless, apparently forgotten by his race, plainly famine-stricken, weak, frozen, helpless, and dying – has of the gentleness of Esquimaux nature.<sup>93</sup>

Was it not more plausible, asked Dickens rhetorically, that it was a group of Inuit who had committed cannibalism when they found Franklin and his men? Perhaps they were in fact murdered by Inuit.<sup>94</sup> Dickens prefaced his critique of Rae’s report to the Admiralty with a (subversively) flattering description of Rae’s abilities as an

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Group, 2011), 55–56; Qureshi, *Peoples on Parade*, 177–81; Grace Moore, *Dickens and Empire: Discourses of Class, Race and Colonialism in the Works of Charles Dickens* (Aldershot, Burlington, VT: Ashgate, 2004).

<sup>92</sup> Charles Dickens, “The Lost Arctic Voyagers.,” *Household Words, Conducted by Charles Dickens* 10, no. 245 (December 2, 1854): 361–65; Charles Dickens, “The Lost Arctic Voyagers.,” *Household Words, Conducted by Charles Dickens* 10, no. 246 (December 9, 1854): 385–93.

<sup>93</sup> Dickens, “The Lost Arctic Voyagers.,” December 2, 1854, 362.

<sup>94</sup> *Ibid.*

Arctic explorer and his “manly, conscientious, and modest personal character”.<sup>95</sup> The flattery was little more than a smokescreen to establish that Dickens himself was fair in his evaluation of Rae’s testimony.

While Dickens did not explicitly state that Rae was not as trustworthy as other British Arctic explorers, this was the implication of his two-part essay. In doing so, Dickens positioned Rae against Franklin. This was linked to broader questions of the status of scientific practitioners and fieldwork. Whereas part one of “The Lost Arctic Voyagers” focused on the content of Rae’s report to the Admiralty, part two consisted of an anthology of previous situations where British sailors had been lost, without food or water, and had not resorted to cannibalism. Dickens himself had never travelled to the Arctic, and had no first-hand experience speaking and interacting with Inuit. To make his case against Rae, a well-known seasoned Arctic explorer and HBC employee, Dickens made use of the old rhetorical strategy of summarizing or anthologizing what other first-hand observers had experienced and reported. This was a well-established technique for establishing authority. Throughout the first half of the nineteenth century, so-called ‘armchair scholars’ relied on the knowledge that others had collected in the field.<sup>96</sup> Those working in the field were often part of a lower social status than the gentlemen-scientists who

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<sup>95</sup> Ibid., 245.

<sup>96</sup> See for example: Sera-Shriar, *The Making of British Anthropology, 1813–1871*; Sera-Shriar, “Arctic Observers”; George W. Stocking, *The Ethnographer’s Magic and Other Essays in the History of Anthropology* (Madison: University of Wisconsin Press, 1992); Stocking, *Observers Observed*; Kuklick, “Personal Equations”; Richard C. Powell, “Becoming a Geographical Scientist: Oral Histories of Arctic Fieldwork,” *Transactions of the Institute of British Geographers*, New Series, 33, no. 4 (October 1, 2008): 548–65.

made use of the collected data and specimens.<sup>97</sup> Richardson is again a useful point of comparison. He was an established and respected naturalist, and was knighted for his services. While Richardson, like Rae, was a Scottish surgeon and Arctic explorer, he was part of the tradition of Arctic explorers where the main figures were of considerable social status. They travelled, as examined in chapter one and two, in a style much different to that developed by the HBC, as well as those associated with the KGH. While Arctic expeditions were always dangerous and arduous, the facilities on board the vessels in service of the British Navy in the Arctic mirrored the gentlemanly status of its officers. Rae however, made full use of Inuit methods for travelling and surviving in the Arctic. For example, he became skilled at snowshoe travel.<sup>98</sup> He was rugged and distinctively non-gentlemanly. By juxtaposing Rae's testimony against that of other accounts of British men who had been in situations where cannibalism could have become an option, Dickens made it a question of "the nature of men" – and whom one should trust, Rae or Franklin. If Rae was correct, then Franklin was amoral, worse than all other British men before him. Therefore, Dickens emphasized, Rae had to be wrong.

Dickens's criticisms of Rae were substantial, but the fiercest criticism of Rae came from King. There is no doubt that King felt vindicated by Rae's report, as it showed he had been correct in his early argument of where the search missions should focus along the Back River and west of Boothia. King extended his criticisms

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<sup>97</sup> Kuklick, "Personal Equations," 3.

<sup>98</sup> Daniel Panneton and Leslie H. Neatby, "John Rae," *The Canadian Encyclopedia*, accessed December 19, 2016, <http://www.thecanadianencyclopedia.com/en/article/john-rae/>.

not only to the Admiralty for not listening to him, but also to Rae for insisting that the evidence he had provided was substantial and sufficient. The big issue was the £10000 reward for rescuing Franklin or determining the fate of the expedition. Neither Rae nor King was independently wealthy, and the reward was a substantial amount of money. If Rae's findings were deemed sufficient, he would receive the reward. Yet, as King had proposed an expedition to search in the area around the west coast of Boothia as early as 1847, to what extent did he also deserve the reward? King thought he did. In 1855 King made his case in his book *The Franklin Expedition from First to Last*, which included a compilation of his correspondences with the Admiralty, and letters published in the periodical press about King, Rae, and the search for Franklin.<sup>99</sup>

In this strongly worded book, King argued that if he had been in charge of a search-mission, he would not have relied on the words of Inuit but continued to investigate further:

That he should have stood on the shore of Castor and Pollux River, his right eye directed to Point Ogle and his left eye to Montreal Island, knowing that the fate of The Franklin Expedition was to be read there, and instead of directing his steps to the tragedy before him, that he should have turned his back upon these painfully interesting lands, and have proceeded upon his paltry discovery, was utterly worthless, is a problem I will not pretend to solve. I was able to solve the problem of three centuries, the North-West

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<sup>99</sup> King, *The Franklin Expedition from First to Last*.

Passage, in 1845, although it was not proved until 1854. I was able to point out the Death-spot of The Franklin Expedition in 1845, although it was not discovered until 1854; but Dr. Rae is a problem I cannot solve. He is a *conundrum I give up*.<sup>100</sup>

King attempted to convince the public and the Admiralty that it was he who deserved the reward, not Rae, on the grounds that he himself had proposed to search in those areas long before Rae brought back his report. While King on the one hand used Rae's report to justify his own claim to the reward, King also argued that Rae did not have proper evidence. Rather, Rae had mishandled his opportunity to secure better and more substantial evidence by relying on second-hand information. King also extended his criticisms to the Admiralty, and went so far as to include a "statistical form" of those Board of Admiralty that had been involved in the search for the Franklin Expedition "in order to mark the exact amount of guilt which lies at each man's door"<sup>101</sup> As addressed in the previous chapter, King was not known for his diplomatic skills. In spite of his attacks on the Admiralty, King was in fact shortlisted as a recipient for the award.<sup>102</sup> While King sought to grasp the opportunity to promote himself, to re-establish himself as an expert on matters pertaining to the Arctic, he was unsuccessful in achieving leadership of another expedition to the Arctic. Lady Franklin, however, did not give up, and, as the next

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<sup>100</sup> Ibid., 131.

<sup>101</sup> Ibid., 133.

<sup>102</sup> Wallace, *The Navy, the Company, and Richard King*, 148.

chapter shows, many others were ready to take the opportunity to explore the Arctic - and try to find Franklin.

After several years delay, Rae was eventually given the reward. However, Lady Franklin lobbied to delay paying Rae, and at the same time the HBC suspended Rae's pay. Rae had to send several letters to the Admiralty and the HBC before the award was finally released.<sup>103</sup> Aside from the financial issue, there were other consequences for Rae. When King argued that Rae had shown himself to be nothing more than a fur-trader, he was delegitimizing Rae as an Arctic explorer and consequently his discoveries, both geographical and scientific. This was not limited to King or Dickens. Ken McGoogan has shown that the naval hydrographer John Washington attributed the charting of Victoria Island to Richard Collinson, even though Rae had charted it two years before.<sup>104</sup> Washington further argued against giving Rae the reward for finding Franklin.<sup>105</sup> Rae's decision to convey and continuously defend the information he had been told by Inuit as certain proof of the fate of the Franklin expedition seriously harmed his reputation. The implication was, that Rae had 'gone native' and could no longer be trusted as a British gentleman. While Rae was able to retire on the reward money he was, unlike the majority of the other British leaders of Arctic expeditions, never knighted, and his past geographical discoveries were downplayed. Rae's rugged persona, his abilities to travel and survive in the Arctic, which he had adapted from the Indigenous

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<sup>103</sup> McGoogan, *Fatal Passage*, 237.

<sup>104</sup> *Ibid.*, 234.

<sup>105</sup> Wallace, *The Navy, the Company, and Richard King*, 148.

peoples and his decision to trust the testimony of Inuit, went against the image of the British heroic Arctic explorer.

#### **4: A Danish opportunist: Carl Petersen and the many search missions**

It is the British who takes the main honour for exploring these areas. The Danish take the next spot after the British; Danish men eagerly participated in the early expeditions, the Danish colonies in Greenland have been of considerable importance for the later expeditions, and from there have the British received useful help in various directions. ... the man who has published this work, have surely not played a prominent role, has not been a leader of an Expedition, but he has in a subordinate role significantly contributed to facilitate the attainment of the objects that was planned.<sup>106</sup>

- H.B., *Fædrelandet*, 22 December 1860

Even after Rae received the reward for ascertaining the fate of the lost Franklin Expedition, Lady Franklin did not cease her campaigns for finding the, now known

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<sup>106</sup> Translated from the original Danish: "Det er Englænderne, hvem Hovedfortjenesten tilkommer for Udforskningen af disse Egne. ... Efter Englænderne indtage de Danske den næste Plads; danske Mænd deltog ivrig i de tidligere Expeditioner, de danske Colonier i Grønland have været af væsenlig Betydning for de senere Tog, og derfra have Englænderne modtaget gavnlig Hjælp I forskjellige Retninger. ... Den Mand, som har udgivet det nærværende Værk, har vel ikke spillet nogen fremtrædende Rolle, han har ikke været Leder af nogen Expedition, men i en mere underordnet Stilling har han væsenlig bidraget til at fremme Opnaaelsen af de Formaal, man havde sat sig." H B, "Den Sidste Franklin-Expedition Med 'Fox,'" *Fædrelandet*, December 22, 1860, 1, Statsbiblioteket, Aarhus Universitet.



to be deceased, men. The British Admiralty were not interested in spending more resources, financial and human, on the subject, so Lady Franklin again organized her own expedition led by Captain Francis Leopold McClintock (1819-1907) with the steam yacht *Fox*. There were several reasons why McClintock was interested in the venture. Lady Franklin had secured the support of high standing scientific men such as the president of the Royal Society, Sir Robert Murchison.<sup>107</sup> There was also significant public interest in discovering more about the fate of the lost expedition, and the *Fox*-expedition was partially funded through a public appeal. The Franklin expedition still afforded opportunities for participating in Arctic exploration. One of the crewmembers on board *Fox* was the Danish trader, sailor, and experienced Arctic explorer Carl Petersen. With a starting point in Petersen's narrative *Den Sidste Franklin Expedition med Fox* (1860), and McClintock's narrative *The Voyage of the 'Fox' in the Arctic Seas* (1859), from the same expedition, this section examines the lost Franklin expedition from the Danish perspective.<sup>108</sup> The comparison between the two narratives draws out key differences in the perceptions of the controversy surrounding Rae's report to the Admiralty, and how Arctic explorers were represented.

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<sup>107</sup> Wallace, *The Navy, the Company, and Richard King*, 151.

<sup>108</sup> Carl Petersen, *Den Sidste Franklin-Expedition med "Fox", Capt. M'Clintock, Ved Carl Petersen* (København: Fr. Woldikes Forlagsboghandel, 1860); Francis Leopold M'Clintock, *The Voyage of the "Fox" in the Arctic Seas: A Narrative of the Discovery of the Fate of Sir John Franklin and His Companions* (John Murray, 1859).



Figure 21 Carl Petersen. Image credit Arktisk Institut fotosamling, image no. 120104<sup>109</sup>

Sir Robert Murchison had together with 35 other prominent British men, and eighteen officers from the Royal Navy who had been employed in the search for Franklin including McClintock, signed his name to a letter ‘Memorial to the Right Hon. Viscount Palmerston, M.P., G.C.B’, the prime minister (1784-1865) on 5 June 1856.<sup>110</sup> The letter urged the British government to send out an expedition to further examine what Rae had stated in his report to the Admiralty. The project, the letter argued, would be of little risk as Rae’s report directed them to a limited geographical area. There is an interesting conflict in this letter, as indeed in many of the reactions to Rae’s report, between trusting and using to their advantage the fact

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<sup>109</sup> *Carl Petersen*, n.d., no 120104, Arktisk Institut Fotosamling.

<sup>110</sup> The letter was included in the Appendix of: M’Clintock, *The Voyage of the “Fox” in the Arctic Seas*, 361–65.

that Rae had discovered *where* Franklin and his crew could be located on the one hand, and disputing *what* had happened to the expedition on the other. As the letter stated, a search Expedition could “satisfy the honour” of Britain, and “clear up a mystery which has excited the sympathy of the civilized world.”<sup>111</sup> Furthermore, that his project would not be left to be solved by individuals from other countries. As McClintock wrote his narrative, the issue was “a *great national duty*”.<sup>112</sup> That a foreign nation could discover the fate of the lost Franklin expedition was a concern because that expedition, like the Magnetic crusade, established several international collaborations. These international collaborations were not so much between governments, as in the years leading up to the First IPY examined in the next chapter, but between individual figures such as McClintock and Petersen.

Carl Petersen was born in Copenhagen into a family of very few means. His father, Mads Pedersen Øksendrup, worked as a low ranking military clerk, and Carl had plenty of siblings.<sup>113</sup> As a child he attended a military school that put great emphasis on Denmark’s role as a seafaring nation.<sup>114</sup> After participating in a journey to Iceland, Petersen decided that he wanted to travel to Greenland. According to Niels Aage Jensen, Graah’s expedition in Greenland, which I examined in chapter one, was widely discussed in the 1830s, and would likely have strengthened Petersen’s desire to travel to Greenland.<sup>115</sup> While still in Copenhagen, Petersen trained to be a cooper. This was a respected trade, and one that the KGH considered

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<sup>111</sup> Ibid., 361.

<sup>112</sup> Ibid., 11.

<sup>113</sup> Nils Aage Jensen, *Carl – polarfarer* (Lindhardt og Ringhof, 2014), 37–42.

<sup>114</sup> Ibid., 45–46.

<sup>115</sup> Ibid., 65.

useful.<sup>116</sup> Petersen completed his training, and moved to Greenland in May 1833 where he was to work as a cooper in Qeqertarsuaq (Godhavn).<sup>117</sup> After a hand injury that left him unable to continue with his trade, Petersen was given a position in the KGH to work within all areas of trade and hunting.<sup>118</sup> Petersen was not a scientific man. Aside from his basic education in the military school, his training was practical. But through his time with the KGH in Greenland he became well-versed in multiple languages and he was known for his Greenlandic language skills and strong knowledge of Greenlandic Inuit culture. He was also skilled at traveling by dog-sled, and learned to speak English by engaging with the British whalers that came to the region.<sup>119</sup> These were all useful qualities for an Arctic explorer. This emphasis is also reflected in his narrative from the McClintock expedition, where the primary focus was on ethnography, linguistics, and geography.

Throughout his narrative, Petersen gave detailed stories about his experiences with Inuit. This also illustrated his intimate knowledge of the language, and culture, as well as his friendships with individuals he had met during his previous expeditions. For example, while in the northwest coast of Greenland they encountered a group of Inuit men whom Petersen knew from his previous expedition with Kane. They all recognized each-other, but Petersen noticed one man was missing. His name was Hans Hendrik, and he had been part of Kane's expedition. In fact, Hendrik was part of four explorations to the North Pole, and is a

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<sup>116</sup> Ibid., 61–64.

<sup>117</sup> Ibid., 110.

<sup>118</sup> Ibid., 144–45.

<sup>119</sup> Ibid., 121–23.

central figure in the next chapter. There was a conflict between Kane and Hendrik, and Kane had threatened him and said he “had the right to have him shot for his disobedience.”<sup>120</sup> Hendrik ran away, and Petersen was happy to learn that Hendrik had since married. McClintock and his men wanted to purchase sled dogs from them, but, as Petersen noted, “These people, who have shown themselves to be so helpful and respectable towards us during the unlucky voyage we did from Advance to possibly escape down to Upernavik, had suffered much since that time” and there were no more dogs available.<sup>121</sup> Petersens’s narrative was full of descriptions about encounters with the Indigenous peoples, which, as discussed in the previous chapters, furnished important evidentiary resources for ethnographers. Petersen also collected clothes and other objects, which were later exhibited in Copenhagen. After the completion of the expedition with the *Fox* Petersen received several medals and honors. He received the British Arctic Medal, the Swedish Polar Star, and the Danish Order of the Dannebrog.<sup>122</sup> As was reported widely in the Danish press, Lady Franklin presented Petersen with a pocket-watch with an engraving of the *Fox* as an acknowledgement of his service during the expedition.<sup>123</sup> After the expedition with the *Fox*, Petersen gave several lectures about the voyage including in the Group

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<sup>120</sup> Translated from the original Danish: “havde Ret til at lade ham skyde for hans Ulydigheds skyld” Petersen, *Den Sidste Franklin-Expedition med “Fox”, Capt. M’Clintock, Ved Carl Petersen*, 84.

<sup>121</sup> Translated from the original Danish: “Disse Folk, som havde visit sig saa hjælpsomme og skikkelige imod os paa den uheldige Reise vi gjorde fra Advance for om mulig at slippe ned til Upernavik, havde lidt megen Nød siden den Tid...” Ibid.

<sup>122</sup> Jensen, *Carl – polarfarer*, 12–13.

<sup>123</sup> See for example, Anon, “Indlandet,” *Vestslesvigsk Tidende*, February 15, 1860, 2.

for Industry in Copenhagen ('Kjøbenhavns Industriforening').<sup>124</sup> His narrative was completed with the assistance of Frederik Wøldike (1832-1883) who also published the book.

Petersen's language skills allowed him to work as a translator on several Arctic expeditions. Between 1850 and 1851 Petersen participated in Captain William Penny's (c.1808-1892) search mission for the lost Franklin expedition on board the ships *Lady Franklin* and *Sophie*.<sup>125</sup> The expedition was delayed by ice, around Upernavik, and a brief description of this delay nicely illustrates the Franklin-fever of the time. While delayed, they were met by the expedition in the *HMS Resolute* and *HMS Assistance* and with the steamers *HMS Pioneer* and *HMS Intrepid* led by Captain Horatio Thomas Austin (1801-1865).<sup>126</sup> A few days later another expedition also arrived, the *Prince Albert* with Captain Charles Codrington Forsyth (c.1813-1873), which was financed by Lady Franklin. John Ross' last expedition to the Arctic on board the *Felix* – named after his patron – also arrived. Outside Lancaster Sound they met the First Grinnell Expedition with *USS Advance* and *USS Rescue* led by Lieutenant Edwin de Haven (1816-1865). Inside the bay they met the supply ship *North Star* under Captain James Saunders which had left to provide assistance to James Ross who had also been looking for Franklin. In total there were eleven ships in the Barrow Strait by the mouth of the Wellington Channel

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<sup>124</sup> Anon, "Den Sidste Franklin-Expedition Med 'Fox,'" *Lolland-Falsters Stifts-Tidende*, May 26, 1860, 2, Statsbiblioteket, Aarhus Universitet; Anon, "Literatur," *Fyens Stiftstidende*, May 10, 1860, 1, Statsbiblioteket, Aarhus Universitet.

<sup>125</sup> W. Gillies Ross, "William Penny," in *Encyclopedia of the Arctic*, ed. Mark Nuttall (New York: Routledge, 2012), 1608.

<sup>126</sup> Petersen, *Den Sidste Franklin-Expedition med "Fox", Capt. M'Clintock, Ved Carl Petersen*, 14.

outside Beechey Island.<sup>127</sup> The lost Franklin expedition provided plenty of opportunities for Arctic explorations, funded by governments of several countries and various types of private patrons.

Following Penny's expedition, Petersen was asked to participate in the American expedition led by Dr. Elisha Kent Kane in the *Advance*. In a letter to the American Secretary of the Royal Navy, later published in his travel narrative *Arctic Explorations*, Kane described Petersen in flattering terms. Kane wrote that he had "engaged the valuable service" of Petersen, as if they "should meet the Esquimaux north of Cape Alexander, he will be essential to our party".<sup>128</sup> Kane's expedition is also known as the Second Grinnell Expedition, as it was the second financed by the American philanthropist Henry Grinnell (1799-1874). The expedition was a disaster. As Petersen put it, "This was a very unlucky voyage, long-lasting and without any results"<sup>129</sup> They were icebound on the coast of Greenland for two winters, they did not have enough fuel, the ship was not properly insulated, the crew suffered from an outbreak of scurvy, and several men died.<sup>130</sup> After his return, Petersen and his family visited Denmark. Immediately upon his arrival, Petersen was asked by the Chamberlain and Navy Officer Carl Ludvig Christian Irminger (1802-1888), Royal Adjutant to King Frederik VII, if he would participate in

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<sup>127</sup> Ibid., 15.

<sup>128</sup> Elisha Kent Kane, *Arctic Explorations: The Second Grinnell Expedition in Search of Sir John Franklin, 1853, '54, '55*, vol. 2 (Childs & Peterson, 1857), 318.

<sup>129</sup> Translated from the original Danish: "Dette blev en uheldig Reise, langvarig og uden Udbytte." Petersen, *Den Sidste Franklin-Expedition med "Fox", Capt. M'Clintock, Ved Carl Petersen*, 21.

<sup>130</sup> Geiger and Beattie, *Frozen in Time*, 70–72.

McClintock's expedition at the request of Roderick Murchison.<sup>131</sup> Murchison was one of the several prominent men of science who supported Lady Franklin in putting together yet another search mission for Franklin. Irminger had a keen interest in Arctic research, and was cofounder of the Royal Danish Geographical Society (Det Kongelige Danske Geografiske Selskab). He published several books on ocean currents, and other geographical and hydrographical subjects.<sup>132</sup> The Irminger Sea and Irminger Current are named after him. As an 'Honorary Corresponding Member' of the Royal Geographical Society of London, Irminger was well-known to Murchison.<sup>133</sup> Petersen is in this way an interesting example of how the lost Franklin expedition fostered a high level of international collaboration in the Arctic.

In spite of the fate of the Second Grinnell Expedition, Petersen agreed to participate in the McClintock expedition. The *Fox* was already waiting in Aberdeen, and Petersen left Copenhagen by train soon after. In London, Petersen had lunch with Murchison, and was gifted a map of the Arctic regions by Captain Washington.<sup>134</sup> This was the same Washington with whom Rae had a dispute over the designators in his map, as discussed in the previous section. The expedition left Aberdeen on 30 June 1857 and returned to London on 21 September 1859. The *Fox*

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<sup>131</sup> Jensen, *Carl – polarfarer*, 341–42.

<sup>132</sup> Svend Thorsen and Tage Kaarsted, *De danske ministerier: Et hundred politisk-historiske biografier. [Udg. af Pensionsforsikringsanstalten i anledning af dens 50 års jubilaeum]*. (Nyt Nordisk Forlag, 1967), 119–20.

<sup>133</sup> See for example: Roderick Impey Murchison, *Address to the Royal Geographical Society of London; Delivered at the Anniversary Meeting, May 25th, 1857*, 1857, 113, footnote.

<sup>134</sup> Jensen, *Carl – polarfarer*, 348.



had only been used for leisure travel to Norway, and Lady Franklin had purchased it for £2000 pounds and had it reinforced in Aberdeen.<sup>135</sup> They had provisions for 28 months.<sup>136</sup> The expedition had a total of 25 people: in Greenland they added two Inuit men named Anton Christian and Samuel Emanuel<sup>137</sup>, and one of the expedition members returned to Denmark because of illness. The expedition had been provided with a letter from the Directors of the KGH to the Inspector of the North Greenland named Christian Olrik (1815-1870), instructing him to assist the expedition and he helped them obtain ten sledge-dogs.<sup>138</sup> On 6 August they reached Upernivik, where Petersen had lived for twelve years. In Upernivik they added fourteen dogs and a reserve of seal's flesh.<sup>139</sup> They arrived in Melville Bay on 12 August, but were caught by ice soon after until 26 April. During these 242 days, they drifted 1194 geographical miles through packed ice.<sup>140</sup> They reached Beechey Island on August 11, and continued through to Bellot Strait. They spent the second winter around Point Kennedy, and in early spring divided into three over-land expeditions. In early March, McClintock's search party was met by a group of Inuit who confirmed Rae's information and sold them items from the Franklin expedition. The expedition met several other groups of Inuit, who provided them with more information and relics. By following these reports, they discovered a skeleton in uniform on May 24. Soon after, one of the overland parties discovered a key piece of

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<sup>135</sup> Petersen, *Den Sidste Franklin-Expedition med "Fox", Capt. M'Clintock, Ved Carl Petersen*, 27.

<sup>136</sup> *Ibid.*

<sup>137</sup> No known vital dates

<sup>138</sup> M'Clintock, *The Voyage of the "Fox" in the Arctic Seas*, 25–26.

<sup>139</sup> *Ibid.*, 30.

<sup>140</sup> *Ibid.*, 110.

evidence. Surviving members of the Franklin expedition had left a letter that, amongst other things, gave the date of Franklin's death. This text was the "smoking gun" that provided what Rae had been criticized for not finding, namely evidence based on something other than Inuit testimony. This was undisputable proof that Franklin was dead, but did not shed light on the issue of cannibalism.

Petersen's and McClintock's published narratives from the expedition addressed Rae's report, but in very different ways. McClintock's narrative was guarded, and did not explicitly discuss the question of cannibalism. By contrast, Petersen, as the reviews of Petersen's narrative, used it to add drama to his narrative. For example, Petersen recounted how in 1854, during the Kane expedition, he had met Rae while he examined the area around Boothia. Petersen described Rae's discovery of the fate of the Franklin expedition in dramatic terms, noting that "the Eskimoes assumed, that they had starved to death after they in vain had tried to save their life on each others flesh."<sup>141</sup> Petersen further described how Franklin's earlier expedition between 1819 and 1822 had suffered greatly "where his men's hunger had been pushed so far, that they thought they had to use this last, gruesome rescue tool – to feast on the meat of a friend; only by using force had Franklin ensured that there was only one victim."<sup>142</sup> Cannibalism, Petersen implied, was not foreign to Arctic expeditions. Petersen's attitude to the issue of cannibalism

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<sup>141</sup> Translated from the original Danish: "Eskimoerne antog, at de vare døde af Sult efter forgjæves at have prøvet paa at friste Livet ved hverandres Kjød." in Petersen, *Den Sidste Franklin-Expedition med "Fox", Capt. M'Clintock, Ved Carl Petersen*, 22.

<sup>142</sup> Translated from the original Danish: "...hvor hans Folk af Sult bragtes saa vidt, at de troede at maate gribe til det sidste, gruelige Redningsmiddel – at mætte sig med Kjødet af en kammerat; kun ved at bruge Magt opnaaede Franklin, at det blev ved eet Offer." Ibid., 8.

is indicative of a difference between what Franklin represented in Britain, and in Denmark. Franklin was not a Danish national hero, and, as such, the idea that he and his crew had resorted to cannibalism was not an offense to the national self-perception in the same way.

While McClintock did not explicitly address the issue of cannibalism, he emphasized at several points that Inuit testimony could not be trusted. The information one could gain from Inuit was “vague” as “indeed all Esquimaux accounts are naturally so”.<sup>143</sup> As such, McClintock argued, it was up to their “own exertions for bringing to light the mystery of their fate.”<sup>144</sup> However, McClintock still relied fully on the assistance of Inuit to ascertain the fate of the Franklin expedition. How was this any different than what Rae had done? It is suggestive that McClintock put a lot of effort into making extensive scientific experiments and observations, and the collection of specimens. The voyage with the *Fox* was a small expedition compared to other British Arctic expeditions, but it was still larger than Rae’s overland-expeditions. They were able to bring with them several scientific instruments, and McClintock received training in using the instruments and preparing specimens by Sabine and Joseph Hooker.<sup>145</sup> The expedition built magnetic observatories, so that they could record hourly observations during the winter.<sup>146</sup>

McClintock used Petersen’s expertise to establish his argument that their interpretation of Inuit testimony was trustworthy. Dicken’s had harshly criticized

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<sup>143</sup> M’Clintock, *The Voyage of the “Fox” in the Arctic Seas*, 276.

<sup>144</sup> *Ibid.*

<sup>145</sup> Levere, *Science and the Canadian Arctic*, 228.

<sup>146</sup> M’Clintock, *The Voyage of the “Fox” in the Arctic Seas*, 206.

Rae's interpreter during his 1854 expedition, and argued that the interpreter had not reliably been able to fully comprehend and convey the important details. There is some debate as to whether Petersen properly understood the dialect used in the central Arctic.<sup>147</sup> However, this problem was glossed over in both his own narrative, and in McClintock's. At the time of the *Fox* expedition, Petersen was an experienced Arctic explorer, and he was well-known for his language skills and knowledge of Inuit cultures. Throughout McClintock's narrative, Petersen is referred to whenever McClintock described subjects of ethnographic and linguistic interest in terms of excellence, experience, and intimate knowledge. McClintock emphasized that it took skill to separate truth from falsehood in Inuit testimony, and that Petersen had the proper abilities. Petersen did not have the same need to differentiate himself from Rae. Petersen's wife Ida-Berthe was part Inuit, and he had adopted many of the Greenlandic traditions and ways of life. As William Barr has pointed out, it was Petersen who introduced travel by dog sled to the British search expeditions, a skill he had acquired during his time in Greenland.<sup>148</sup> The reasons for undertaking the expedition with the *Fox* in search of the Franklin expedition were, according to Petersen's narrative, to determine if there were any lone survivors, to recover the journals, and other documents from the expedition, and determine if Franklin had discovered the Northwest Passage before they passed away.<sup>149</sup>

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<sup>147</sup> Woodman, *Unravelling the Franklin Mystery, Second Edition*, 53.

<sup>148</sup> William Barr, "The Use of Dog Sledges during the British Search for the Missing Franklin Expedition in the North American Arctic Islands, 1848-59," *Arctic* 62, no. 3 (2009): 261.

<sup>149</sup> Petersen, *Den Sidste Franklin-Expedition med "Fox", Capt. M'Clintock, Ved Carl Petersen*, 116.

Petersen had no reason for questioning the veracity of Rae's information. The letter to Lord Palmerston cited earlier in this section shows that the justification to send out the Fox expedition was partially based on the argument that Rae's reliance on Inuit testimony was insufficient – although Rae's report was used to determine where to look for Franklin. Who was a trustworthy Arctic observer was fundamentally linked to issues of the representation of the Arctic explorer and the Arctic. McClintock's guarded treatment of the subject of what had actually happened to Franklin and his men, his argument that Inuit testimony was vague and required the correct interpretation, and the significant scientific results from the expedition, appeared as in contrast with Rae. As Petersen noted in his narrative, the whole issue, from the Northwest Passage to the search for Franklin, was founded in a British sense of national pride:

Had England's interest in this question now merely had its foundation in the desire for commercial advantages, the Northwest Passage would probably never have been found, and there would hardly have been made even one additional attempt at finding it; but the question had in a sense become a point of honor for Britain and the British with their sharp minds do not like riddles which they could not solve; they continue to try and try – until they usually finally solve the riddle. Thus they could not very well leave this question to be unanswered, and they therefore made the occasional exploratory expeditions by land to the still uncharted areas of the mainland, such as Dease and Simpson in 1839, but it took several years before the government would issue

an Expedition by sea. Finally they could no longer resist the old John Barrow's strong requests, which were supported by many other weighty voices as well as by public opinion, and the Franklin Expedition was fitted to depart in May 1845.<sup>150</sup>

The Northwest Passage was Barrows' life project, and, according to Petersen, it was easy for Barrow to convince the government to continue the expedition because the British, the government, and the public, could not bear the idea that they were not the discoverers of the passage. At this point, Denmark was still not financially able to support exploratory missions, and Petersen was evidently happy to use the opportunity to get employment as well as a chance at fame.

## Conclusion

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<sup>150</sup> Translated from Danish: "Havde Englands Interesse for dette Spørgsmaal nu kun havt sin Grund i Begjærlighed efter Handelsfordele, saa vilde en nordlig gennemfar vistnok aldrig være bleven fundet, der vilde vel næppe være bleven gjort en eneste ydeligere Forsøg paa at finde den; men Spørgsmålet var paa en Maade blevet en Æressag for Englad, og Englænderne med deres skarpe Forstand holde ikke af Gaader, som de ikke kunne løse; de blive ved at prøve og prøve – og tilsidst pleie de gjerne af faa Gaaden løst. Saaledes kunde de ikke heller lade dette Spørgsmaal henstaae ubesvaret, og der gjordes endnu af og til enkelte Opdagelsesreiser tillands til de endnu ubetjente Dele af Fastlandet, saaledes af Dease og Simpson in 1839, men det varede adskillige Aar før Regeringen vilde udsende en Expedition tilsøes. Endelig kunde den dog ikke længere modstaae den gamle John Barrow's indtrængende Opfordringer, som understøttedes af mange andre vægtige Stemmer saavel som af den offentlige Mening, og den Franklinske Expedition blev udrusted til at afgaae i Mai 1845" Ibid., 7.

The lost Franklin expedition changed the previous conventions of Arctic explorations. John Barrow had pushed for one last expedition in search for the Northwest Passage, and it ended terribly. While Russel Potter has argued that the Franklin expedition caused a paradigmatic shift “as the nation’s patriotic feelings seem to have been fuelled less by the sublimity of sacrifice than by a sense of loss and mourning”, the drivers behind the search missions and their representation were also shaped by the desire to undertake more expeditions to the Arctic.<sup>151</sup> The lost Franklin expedition afforded new opportunities for hopeful Arctic explorers. However, because these explorations were carried out under the banner of a great tragedy, the framing and configuration of the scientific discoveries within the British context had to be amended. This was not the case in the Danish context. As this chapter has shown, even when the primary objective of explorations was to determine the fate of the lost expedition, science remained a primary focus. Arctic science was not sidelined during the search missions. While Arctic science was also an important way for explorers to establish cultural and scientific authority in the period leading up to the disappearance of Franklin, this function was further solidified after the first report of the fate of the men. The lost Franklin expedition in this way simultaneously generated new opportunities for Arctic explorations, and challenged the conventions for the representation of the Arctic explorer and science in the Arctic.

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<sup>151</sup> Potter, “Introduction: Exploration and Sacrifice: The Cultural Logic of Arctic Discovery,” 6.

Participants in Arctic explorations were always motivated in ways that were varied and complicated in their relationship to the official instructions. Furthermore, as chapter two showed, the tension between private and publicly funded explorations was not unique to the search missions. What was new were the challenges faced by explorers to maintain the perception that finding Franklin was in fact their primary objective, and balancing this with the established conventions for Arctic explorations. As I showed with John Rae in sections two and three, the (self-) portrayal of the Arctic explorer and their activities in the Arctic had a significant impact on the trustworthiness of their claims. The difference in Rae and Richardson's prioritization of their year together in the Arctic shows the discord between the stated aim, finding Franklin, and the produced results, the advancement of Arctic science with significant economic and geopolitical implications. While the British Admiralty had not stated any explicit scientific goals for the expedition, Richardson's scientific findings were extensive and were linked to the concurrent debates over the renewal of the HBC charter. Richardson made use of the lost Franklin expedition to undertake extensive scientific research in the Arctic. Whereas the HBC had claimed that their territories were unsuitable for settlement and only had value to the fur trade, Richardson's findings added to the arguments that there was in fact the possibility of extracting both food and mineral resources from the seemingly infertile land. Rae, however, spent the year surveying the coastline.

Richardson maintained the persona of the gentlemanly Arctic explorer even when the format for the Rae-Richardson expedition broke with the typical blueprint



for British Arctic exploration. I used the comparison of Richardson and Rae, because their activities before, during, and after their joint exploration in search of Franklin show how the construction of the persona of the Arctic explorer as a gentlemanly observer of Arctic phenomena was central to the later outrage over Rae's claims. The reluctance to accept Rae's report to the Admiralty revealed a tension between how would-be explorers used Rae's findings to justify their proposed future expeditions, while simultaneously rejecting that Rae had been right to trust the testimony of his Indigenous informants. Rae challenged the conventions of British Arctic explorations not only in his repertoire for travelling in the Arctic, but also because he openly prioritized Indigenous knowledge. The situation was different in Denmark. As there were no funds available to organize large Danish Arctic explorations, the Danish explorer Carl Petersen used the lost Franklin expedition as an opportunity for employment. I argued in section four that in comparison with McClintock's published account, Petersen's narrative from the expedition revealed the national difference in how the lost expedition influenced the conventions for Arctic travel writing and the function of Arctic science. In Petersen's hands, and in stark contrast to McClintock's narrative, Rae's report that the Franklin expedition had resorted to cannibalism was used to add dramatic flair. Cannibalism was just one aspect of the dangers associated with Arctic exploration.

Like Rae, Petersen had adopted many Inuit methods and ways of life in the Arctic. But Petersen did not need to distance himself from Rae the same way that McClintock did. McClintock, on the other hand, argued that Inuit testimony was always 'vague' and could not be trusted, and therefore required the correct

interpretation. This was a comment on the criticism of Rae, and McClintock asserted that his translator, Petersen, had the proper skills to evaluate the truthfulness of Inuit testimony. McClintock ensured that the expedition achieved significant scientific results. They carried with them several scientific instruments, they established magnetic observatories, and McClintock received training by influential naturalists prior to his departure. This was not unusual for Arctic explorers, however, this was a search mission. The amount of preparation to maximize their scientific results shows how this was still a central focus of Arctic explorations in search of Franklin. Significantly, it also functioned as a way to safeguard the explorer against the charges and accusations levelled at Rae. While Petersen surely would not dispute McClintock's positive evaluation of his abilities, there was no need for Petersen to construct the same persona of the Arctic explorer in his narrative. His Danish reading audience did not share in the outrage over Rae's report. When looking at the construction and representation of travel narratives from Arctic explorations in this period, it becomes clear that in the British context Arctic science had an important function in the construction of the trustworthy Arctic explorer, and that these considerations did not extend to the Danish context. While the Franklin expedition generated new opportunities for Arctic explorations, it also challenged the perception of the Arctic explorer in Britain, and, as the next chapter will show, transformed the aims and ambitions of Empires in the Arctic.

## Chapter 4

### Towards global Arctic science: power shifts in the Arctic

#### Introduction

The importance of Arctic exploration will again be urged upon the attention of our Government, for the feelings of the people and the press of England cannot now be mistaken. They desire their country to take its ancient place in the van of Arctic discoveries once more.<sup>1</sup>

- Clements Robert Markham, *The Threshold of the Unknown Region*, 1874

The period between McClintock's 1857-1859 expedition in search of the lost Franklin expedition, and the First IPY, also known as the 'Polar Campaign of 1882-1883' was characterized by a transition in colonial power in the Arctic. Whereas the British had largely dominated exploration in the Arctic since the end of the Napoleonic Wars, other nations now took center stage. In particular, leading up to, and after the purchase of Alaska in 1867, the Americans were stamping their authority in the Arctic. The change of colonial power influenced all aspects of how

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<sup>1</sup> Clements Robert Markham, *The Threshold of the Unknown Region* (London: Sampson Low, Marston, Low, and Searle, 1873), 335; (Clements Robert Markham) Anon, "The Arctic Campaign of 1873," *Ocean Highways: The Geographical Record* 1, no. 3 (1874): 91.

Arctic expeditions were carried out, from the style of the expeditions, to the interactions with the Indigenous populations. However, as the secretary of the British Royal Geographical Society, Clements Robert Markham (1830-1916), emphasised in *the Geographical Review*, and in his book on Arctic explorations, *the Threshold of the Unknown Region* (1873), there was a lot of pressure on the British government to yet again assert their dominance in the Arctic. Reaching the North Pole first was, Markham emphasised, a matter of national pride.<sup>2</sup> This chapter examines three very different types of Arctic exploration in this period of transitional imperial power and scientific methodologies in the Arctic: the British Arctic Expedition, 1875-76, led by George Nares (1831-1915), the Danish expeditions to the inland of Greenland led by Knud Johannes Vogelius Steenstrup (1842-1913) and Jens Arnold Diderich Jensen (1849-1936) in 1876, 1877, and 1878, and the British-Canadian contribution to the IPY at Fort Rae led by Henry P. Dawson.<sup>3</sup>

What comes to the fore in this chapter is the tension between imperial ambitions, and aspirations of international scientific cooperation in the Arctic. As the previous chapters have shown, support for scientific and geographical discovery in the Arctic was intimately linked with attempts to establish geopolitical authority in the region. However, the intent of the First IPY in 1882-83 was scientific advance

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<sup>2</sup> See for example Markham, *The Threshold of the Unknown Region*, 335. The issue of Arctic exploration was repeatedly treated in the *Geographical Magazine* under the regional section 'Arctic Region', for example, the 1875-76 expedition was discussed in several instances Clements Robert Markham, *The Geographical Magazine*, ed. Clements Robert Markham (Trübner & Company, 1876).

<sup>3</sup> No known vital dates, believed to have passed away soon after the second International Polar Year between 1932 and 1933

through international collaboration. This shift towards increased collaboration and globalization of Arctic science was associated with transformations in perceptions of who was an authoritative observer of Arctic phenomena, as well as the nature and stated aims of Arctic explorations. These changes happened gradually in the years leading up to the IPY. The three expeditions draw our attention to the differences and similarities of how imperial authority was legitimized and practiced, and help to show the varieties of the imperial experience in this period of transition. In particular, they offer three different expressions of the transnational and increasingly global nature of Arctic science and the Arctic explorer.

Throughout this thesis the Arctic has been approached as a region that was continuously (re-)constructed by European explorers in their interactions with the Indigenous communities and the environment. However, the focus has overwhelmingly been on the British, Danish or British-Canadian explorers. When the voices of Indigenous peoples were retrieved, it is through the lens of Europeans. While figures such as Rae, Graah, and, in particular, Petersen, were sympathetic to the Indigenous peoples they encountered in the Arctic, their narratives were still embedded in, and reflected some of the prejudices towards Inuit which were harboured by many Europeans. The section that takes the British Arctic Expedition 1875-76 as a starting point offers a different angle to the literature on Arctic exploration by focusing on a travel narrative written by the Greenlandic Inuit, Hans Hendrik (Suersaq). As was customary, George Nares employed Greenlandic assistants to help with hunting, dog-sleds, and to act as guides. Hendrik was one of these men, and had already participated in three American expeditions in search of

the North Pole. After the expedition, Hendrik wrote a memoir *Memoirs of Hans Hendrik, the Arctic traveller, serving under Kane, Hayes, Hall and Nares, 1853–1876* (1878), which was translated from Greenlandic to English by the Director of the Royal Greenland Board of Trade Hinrich (Henry) Rink (1819-1893).<sup>4</sup> Hendrik's narrative was the first published Inuit account of the Arctic and therefore offers a unique perspective on the practice of Arctic exploration. It reveals the other side of how encounters between European's and Inuit were perceived, and the challenges experienced in these interactions. As section two focuses on Hendrik's narrative from the expedition, section one addresses the context for the George Nares expedition in more detail.

The translator of Hendrik's travel narrative, Rink, is a central person in both sections two and three. It was Rink's decision to publish Hendrik's narrative in English rather than Danish, as he believed an English-speaking audience would be particularly interested in the book given the historical presence of Britons and Americans in the Arctic. Rink was one of the few people to effectively control the research program of Danish exploration in Greenland, and it was no coincidence that Rink decided to translate Hendrik's narrative. As the Director of the Royal Greenland Board of Trade, Rink was strongly committed to advancing the living standards of Greenlanders, and he encouraged the systematic surveying and cataloguing of Greenland's natural history and the publication of the results of this cataloguing beyond the Danish borders. This is a key point. Rink's scientific research

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<sup>4</sup> Hans Hendrik, *Memoirs of Hans Hendrik : The Arctic Traveller, Serving under Kane, Hayes, Hall and Nares, 1853-1876*, ed. George Stephens, trans. Hinrich (Henry) Rink (London: Trübner, 1878).

program included the dissemination of knowledge about the Arctic to an international reading audience. Rink was a central person behind the journal *Meddelelser om Grønland* (est 1879), which aimed to "reveal some of the most important physical and geological conditions in a country, where the Treasury extracts a not insignificant income."<sup>5</sup> Two of the key explorers and contributors to *Meddelelser om Grønland* were the geologist and assistant at Copenhagen University's Mineralogical Museum, Knud Johannes Vogelius Steenstrup, and the geologist and naval officer, Jens Arnold Diderich Jensen. Section two examines Steenstrup and Jensen's expeditions to Greenland in 1876, 1877, and 1878, within the context of this increased focus on cataloguing all of Greenland. The link between surveying and nation building has been a significant one throughout this thesis. However, it becomes particularly important in this period, in contrast to the ambitions of advancing scientific knowledge through international collaboration and knowledge-exchange. Drawing in particular on Sujit Sivasundaram's suggestion that writing global science requires an expansion of sources beyond those of Western scientists in different national settings, Hendrik's *Memoirs* from the George Nares expedition shows the instability of the Arctic region as a space.<sup>6</sup> Hendrik was someone who typically had little direct authority on the construction of the Arctic in European perception, and his narrative therefore fits uncomfortably within the

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<sup>5</sup> Translated from original Danish: "belyse nogle af de vigtigste fysiske og geologiske Forhold i et Land, hvoraf Statskassen hæver ikke ubetydelige Indtægter" Kommissionen for videnskabelige undersøgelser i Grønland, *Meddelelser Om Grønland*, vol. 1 (København, C. A. Reitzels Forlag, 1879), 4.

<sup>6</sup> Sujit Sivasundaram, "Sciences and the Global: On Methods, Questions, and Theory," *Isis* 100, no. 1 (March 2010): 146–58.

discourse of the Arctic and the Arctic explorer. The Danish presence in Greenland, and the establishment of a journal dedicated to cataloguing the region, offers a more typical expression of the relationship between nation building, exploration, and increased international cooperation.

The primary goal of the IPY was to produce internationally coordinated systematic meteorological and magnetical observations in the Arctic and Antarctic. Section four examines the British-Canadian contribution to the IPY - the Polar Station at Fort Rae. International scientific corporation was the hallmark of the IPY, as was the change of focus from geographical exploration to scientific observation. While still in the Arctic, the IPY expeditions were centred around Polar Stations, which were largely sedentary. One aspect of this was a change in the field-site, which had implications for the identity of the Arctic explorer-fieldworker. Many contemporary British commentators lamented that the inherently dangerous and heroic aspects of Arctic explorations were lost with the change of field-site and methodological transformations associated with the IPY. Another concern was the implication that international cooperation could achieve better scientific results than the British alone. Building upon recent studies such as *Globalizing Polar Science*, edited by Roger Launius, David DeVorkin, and James Fleming, *The History of the International Polar Years*, edited by Susan Barr and Cornelia Lüdecke and the historiography on field science, it becomes clear that the nationalistic concerns were also linked to apprehensions about changes of the Arctic field-site and the Arctic



explorer.<sup>7</sup> In this way, this chapter brings to the fore the connections between the cautious international cooperation in this period of transition in imperial authority in the Arctic, changes in scientific practice, and the identity of the Arctic explorer.

## **1. Globalization and nation building**

This section provides a brief overview of the historical context in Denmark, Britain, and Canada, for the late 1860s and 1870s, with a focus on the tension between nation building and globalization. This discussion of the transition of power in the Arctic draws attention to the resistance and emulation of technologies for travelling and surviving in the Arctic. The British government was reluctant to send out another expedition to the Arctic after McClintock's search mission. From the 1850s onwards, other nations took centre stage in the Arctic. This section examines the lead-up to the decision to send out the George Nares expedition. In doing so, it addresses the arguments levelled for and against further British exploration within the context of nationalism and internationalization. This section also addresses some of the key topics raised in the literature on science and the global, and transnational history. What it means to do global science, or science in a period of globalization is not easily defined, and even the concept of globalization is

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<sup>7</sup> Launius, Fleming, and DeVorkin, *Globalizing Polar Science*; Barr and Lüdecke, *The History of the International Polar Years (IPYs)*; Robert E. Kohler, *Landscapes and Labscapes: Exploring the Lab-Field Border in Biology* (Chicago: University of Chicago Press, 2002); Henrika Kuklick and Robert E. Kohler, "Introduction," *Osiris* 11 (1996): 1–14; David N. Livingstone, *Putting Science in Its Place: Geographies of Scientific Knowledge* (Chicago: University of Chicago Press, 2010).

not unproblematic. This opens up many questions about the nature and function of Arctic exploration, in particular as it relates to science and the nation state, and travel accounts as the narrative format.

After the discovery of one of the Northwest Passage routes, and McClintock's search expedition that for the time being put the question of Franklin's fate to rest, the next big goal in Arctic exploration was reaching for the North Pole and finding the hypothesized open Polar Sea. Smith's Sound was of significant interest because it was believed that there would be a passageway through the north of the sound to the open Polar Sea and the North Pole. The first three expeditions that sought to reach for the North Pole through Smith's Sound were American. The first was the Second Grinnell expedition was between 1853 and 1855 led by Elisha Kent Kane, the second the expedition led by Isaac Israel Hayes (1832-1881) in the schooner the *United States* between 1860 and 1861, and the third was the Polaris expedition led by Charles Francis Hall (1821-1871) between 1871 and 1872. The fourth expedition was British, and known as the British Arctic Expedition between 1875 and 1876 led by George Strong Nares (1831-1915). However, there were other ways of potentially reaching the North Pole, and one of the new players in Arctic exploration and the quest to reach the North Pole was Germany. Two German expeditions sought to reach the North Pole via Spitsbergen in 1868 and 1869. An associated Austro-Hungarian expedition also failed at finding the Open Polar Sea between 1872-74, but discovered the Franz Josef Islands instead. Several additional explorers from multiple countries attempted to reach the North Pole in the last decades of the nineteenth century and the beginning of the twentieth century. The

first explorer to claim he had reached the North Pole was the American explorer Robert Peary (1856-1920) – although many questioned the validity of his claim.<sup>8</sup>

The North Pole was yet another opportunity for national and personal glory, but it was not the only motivating factor for Arctic exploration in this period. Section three examines the Danish explorers Steenstrup and Jensen within the context of the attempts to rebuild a national identity in post-war Denmark. The 1860s was a turbulent decade for both Denmark and Canada. With the Second Schleswig War of 1864 Denmark lost a large amount of land to Germany, and the Kingdom of Denmark had to re-define itself as a much smaller country. With Confederation in 1867, some of the previously separate British colonies entered into the Dominion of Canada. Canada also faced the task of establishing a new national identity. Geographical surveying was an integral part of this nation building, which, as section four shows, was one reason for why the prospect of international scientific collaboration in the Arctic during the IPY was not very appealing. As discussed in chapter three, the First Schleswig War between 1848 and 1850 had a big impact on Denmark. The so-called London Protocol of 1852 created a period of territorial stability. However, neither the Danes nor the Germans were happy with the protocol and there were continued tensions over the governing of Schleswig and Holstein. In Denmark the political ideology that influenced the First Schleswig War was

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<sup>8</sup> For a detailed account of Peary's North Pole venture, see for example Bruce Henderson, *True North: Peary, Cook, and the Race to the Pole* (W. W. Norton & Company, 2006); Fergus Fleming, *Ninety Degrees North: The Quest for the North Pole* (Grove Press, 2007); Baron Bedesky, *Peary and Henson: The Race to the North Pole* (Crabtree Publishing Company, 2006); Daniel E. Harmon, *Robert Peary and the Quest for the North Pole* (Infobase Publishing, 2001).

expressed in the so-called Eider politics (Ejderpolitikken). This ideology pushed to move the border between Denmark and German to the Eider River under the motto, 'Denmark to the Eider' (Danmark til Ejderen). While political powers in Denmark were contemplating ways to bring the disputed German-ruled areas under Danish rule, proponents of German unification were considering the opposite. This was further complicated by several factors on a macro-political level. A growing German sea-power was a military concern to Britain. If Germany gained control of Holstein, they were free to establish the Kiel Canal and bypass the toll enforced by the Danish government on ships passing through its waters. While Britain, Sweden and Norway supported Denmark, France and Russia expressed support for German incorporation of Schleswig and Holstein. The Second Schleswig War of 1864 concluded with a peace conference in Vienna where Denmark lost Holstein, Lauenburg and Schleswig. This meant that Denmark's southern border was now defined by the river Kongeåen.<sup>9</sup>

The dream of a Denmark to the Eider was firmly buried. Losing the war had a lasting impact on Denmark's national identity, including the role and function of Greenland in the new, smaller kingdom. This spurred on an intensification of Danish exploration in Greenland, as well as the publication of scientific research in Greenland. It is therefore no surprise that the Danish government jumped at the chance to participate in the IPY.<sup>10</sup> Denmark's limited financial means affected the

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<sup>9</sup> Kühle, *Danmarks Historie i Et Globalt Perspektiv*, 178–85; Feldbæk, *Danmarks historie*, 185–301.

<sup>10</sup> For a detailed summary of Denmark's contribution to the first IPY, see Barr and Lüdecke, *The History of the International Polar Years (IPYs)*, 40–42.

preferred style of exploration in Greenland. Whereas Britain with a few exceptions had followed the same blueprint with large, fully equipped expeditions, there was simply no money to pay for this type of venture in Denmark. The Danish style of Arctic exploration in the 1860s and 1870s was the same as it had been in the 1830s with Graah's expedition - small, low-budget, and heavily relied on Indigenous methods and assistance for travelling. The experiences of Graah, Rae, and the HBC, showed that the best methods for surviving, and travelling in the Arctic, were those developed and fine-tuned by the Indigenous peoples. The HBC had success with emulating these technologies, as did the explorers associated with the KGH. However, the British Admiralty resisted changing their approach. Daniel Headrick has shown how the success of technologies in imperial expansion was always environment-specific.<sup>11</sup> As the previous chapters illustrated, while technologies such as steam powered boats were key in the European colonial conquest in Africa and Asia, they did not have the same transformative role in the Arctic. In fact, it is questionable if steam and other technological advances even helped in this period. It appears that the British Admiralty was unwilling to adjust their tried and tested exploratory methods, which had been successful elsewhere.

The British government had very little interest in further missions to the Arctic after the McClintock Expedition. However, in light of the increased American presence in the Arctic, and the very real possibility that the North Pole could be reached by an American expedition, several leading scientific and public figures began to put pressure on the government. As with the Northwest Passage, and the

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<sup>11</sup> Headrick, *Power over Peoples*; Headrick, *The Tools of Empire*.

search for Franklin before it, the quest for the North Pole was repeatedly framed as a matter of national pride for Britain. As Trevor Levere has argued, for the Dominion Government in Ottawa by the end of the nineteenth century, "Scandinavian claims to land, and American control of mines and fishing, could best be countered by the assertion of sovereignty and the pursuit of science."<sup>12</sup> These concerns were also present in the 1860s and 1870s, as they had been in earlier periods. Who had the territorial dominance in the Arctic was a key motivating factor for sending out expeditions in search of the North Pole. To convince the government that they should sponsor another Arctic expedition, several learned societies appointed committees to represent their view and lobby the government under Prime Minister William E. Gladstone (1809-1898).<sup>13</sup> These included the Royal Society of London, the British Association for the Advancement of Science, and the Royal Geographical Society. The Dundee Chamber of Commerce which represented the interests of Scotland on this matter also drew up a recommendation to the government. On 17 December 1872, representatives from the Arctic committees met with the Chancellor of the Exchequer, Robert Lowe (1811-1892), and the First Lord of the Admiralty, George Goschen (1831-1907). The deputation included Arctic veterans such as George Back, the President of the Royal Geographical Society Henry Rawlinson (1810-1895), as well as prominent scientists Joseph Dalton Hooker

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<sup>12</sup> Levere, *Science and the Canadian Arctic*, 376.

<sup>13</sup> Philip N. Cronenwett, "British Arctic Expedition, 1875-1876," in *Encyclopedia of the Arctic*, ed. Mark Nuttall (New York: Routledge, 2012), 277.

(1817-1911), John Lubbock (1834-1913), and William Spottiswoode (1825-1883).<sup>14</sup> Rawlinson read a letter that was later reprinted in the British newspapers and journals.

Henry Rawlinson's letter to the government listed the support of several major scientific societies: the Royal Geographical Society, the Royal Society, the Geological Society, the Linnaean Society, the Scottish Meteorological Society, the Metrological Department, the Anthropological Institute, and the British Association for the Advancement of Science. The associated groups show the broad scope of the scientific disciplines that were interested in the potential results of Arctic explorations. Arctic missions were effectively of interest to all scientific fields. Rawlinson further emphasised this point by outlining a highly ambitious list of possible scientific outcomes from an expedition to the North Pole. This included, for example, an examination of land and sea conditions at the northernmost point of the world, the confirmation or rejection of theories regarding the spread of vegetation during the tertiary period, ethnographic observations, collections of plants and animal species, observations of glacial behaviour, meteorological observations, and magnetic observations. In addition to science, Arctic expeditions were central to the national character of Britain:

The belief is expressed that all classes of the people will unite with men of science in the desire that the tradition of Arctic discovery should be preserved

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<sup>14</sup> Anon, "Arctic Exploration," *The Times*, December 17, 1872, 8, The Times Digital Archive.

and handed down to posterity, and that Englishmen should not abandon that career of noble adventure which has done so much to form the national character, and to give our country the rank she still maintains.<sup>15</sup>

The deputation suggested that the government send out two whaling ships, each carrying 60 men. The proposed expedition should start in May and plan for two winters in the Arctic. The German expeditions attempted to reach the North Pole via Spitzbergen, while the American expeditions chose Smith Sound as their route. Like the Americans, this proposed expedition would go up the west coast of Greenland, as they could make use of the Danish settlements for aid if needed.<sup>16</sup> However, not everyone agreed with Rawlinson's evaluation. The cost of previous Arctic expeditions, both economically and in human life, was a significant reason for many to argue against new expeditions.

*The Times* published a series of letters to the editor in December 1872 that illustrates these differing views. The editor, John Thadeus Delane (1817-1879), was likely the author of a leader that appeared the day after the report of the Deputation was published.<sup>17</sup> The editorial was highly critical of the proposed expedition to the North Pole. In particular, the many promised scientific results were described "as unexpected, striking, and sensational as any Christmas literature may be thought to

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<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Anon, "The Reasons Which Make It Desirable to Despatch," *The Times*, December 18, 1872, 9, Gale NewsVault.



require.”<sup>18</sup> However, Delane argued, as scientific societies want experiments and observations, and navy men want employment, they would be inclined to propose such an expedition. According to Delane, the report given to Lowe and Goschen gave no real reasons as to why Arctic expeditions would be safer and cheaper now than they had been before. Like the North West Passage, which was “a pure ‘phantom of the scientific brain’”, reaching the North Pole would require an expedition “by an unknown route, to an unknown region, with purposes which are not only hopeless because they are unknown also.”<sup>19</sup> This elicited a response from the Scottish physicist and proponent of Arctic explorations, Balfour Stewart (1828-1887). Arctic research, Stewart argued, was essential for “what, for want of a better name, I may venture to call cosmical science.”<sup>20</sup> Stewart’s cosmical science, or what we might call geophysics, referred to studies of the relation between solar disturbances and meteorological changes. Past breakthroughs in astronomy such as that of Kepler and Newton were due to “laborious and long-continued observations” of the kind that only the government could organise in the Arctic. Whalers and merchants could not be relied upon, Stewart argued.<sup>21</sup>

Stewart’s letter combined the Humboldtian ethos of an all-encompassing study of the Earth, with a hierarchical view of who could provide observations for these studies. He concluded the letter by arguing that the level of effort put into exploring the world was linked to the possible scientific benefits, as he noted “We

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<sup>18</sup> Ibid.

<sup>19</sup> Ibid.

<sup>20</sup> Balfour Stewart, “Arctic Exploration,” *The Times*, December 21, 1872, 10, Gale NewsVault.

<sup>21</sup> Ibid.

have before us the splendid possibility of predicting the nature of seasons; but surely we cannot expect that nature, who is usually so reticent, will disclose her secrets to a nation or a race who will not take reasonable trouble to complete their knowledge of the physics of the earth?"<sup>22</sup> A similar point of view was expressed by a letter writer, who signed his name as 'An Arctic Officer' in a piece entitled, 'Polar Exploration' which appeared in the same newspaper. According to the anonymous author, Hooker's talk at the meeting with Gladstone's government was "echoed in effect by Professor Balfour Stewart in a late impression of your paper".<sup>23</sup> The author, who described himself as a veteran of Arctic explorations as part of "what I may be pardoned for calling this glorious stage of the Arctic drama" emphasised that while navy men may desire employment on Arctic expeditions for the glory and excitement associated with it, this was by no means the primary reason for why he advocated an expedition to the North Pole.<sup>24</sup> The letter countered the leader published in *The Times*, and instead echoed Rawlinson's points. It also emphasised the value of an Arctic expedition in training the Navy. In particular, it reiterated that Arctic expeditions were much safer now, especially if they used a Dundee steam whaler. The Arctic explorer and HBC employee, John Rae, disagreed with this estimation, and aired his disagreements in a letter in *The Times*. While the 'Arctic Officer' claimed that the leader in *The Times* was the only one in the daily and weekly newspapers who "has thrown a damper on our hopes" for a British

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<sup>22</sup> Ibid.

<sup>23</sup> An Arctic Officer, "Polar Exploration," *The Times*, December 26, 1872, 8, Gale NewsVault.

<sup>24</sup> Ibid.

expedition to the North Pole, Rae offered a third point of view. Based on the experiences of the American expeditions led by Kane and Hays, Rae believed it would be very difficult to travel through Smith's Sound. Instead he advocated for an expedition of "more humble pretensions" via Spitzbergen.<sup>25</sup> The 'Arctic Officer' wrote that the "people of Hull, Dundee, Aberdeen, &c.," confirm that it is possible to "steam round Smith's Sound" in one summer season, but Rae argued that as there is no account of this ever having been done, he would believe such a claim as much as "were I told by a naval seaman that he could with certainty bring his ship safely through the most intricate navigation on our coasts (of which he had no previous knowledge) in a dark night, without the aid of soundings, chart, or compass."<sup>26</sup>

Rae was famed for his abilities to travel over land in the Arctic. He arguably charted more coastline than any other Arctic explorer, by sledge and snowshoe. Rae's rejection of the 'Arctic Officer's' claim that it would be no problem to reach the North Pole by sledge as "greater distances had already been accomplished", carried significant weight.<sup>27</sup> Rae argued that the anonymous officer had no way of determining the distance, as they could not predict where the ship would winter. However, if the ship wintered in latitude 80-degree North, further north than other expeditions had taken their ships, the straight line would be 1200 geographical miles. According to Rae, sledge travel added around one-fifth to the straight line to allow for impediments during the voyage, which would bring the proposed duration up to a minimum of 1440 geographical miles "a longer continuous journey than has

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<sup>25</sup> John Rae, "Arctic Exploration," *The Times*, December 28, 1872, 3, Gale NewsVault.

<sup>26</sup> *Ibid.*; An Arctic Officer, "Polar Exploration," 8.

<sup>27</sup> Rae, "Arctic Exploration," 3.

ever yet been accomplished on the Arctic ice".<sup>28</sup> Rae did not argue against an expedition to the North Pole. Rather he strongly advised that the government not follow the route through Smith's Sound, which had been suggested by the Arctic Committee deputation.<sup>29</sup> Rae was not the only dissenter. John C. Wells<sup>30</sup>, Captain in the British Royal Navy, and author of *the Gateway to Polynia*, published the following year, wrote several letters to *The Times* advocating for a British expedition to the North Pole via Spitzbergen.<sup>31</sup> Wells believed that the North Pole could be reached in one season via this route by use of a steam whaling ship. The route via Spitzbergen would allow the explorers to reach a higher latitude by ship than they could in Smith Sound, and they would then be able to sledge to the North Pole.<sup>32</sup>

In fact, Lowe and Goschen were not fully supportive of the idea of an expedition as proposed by Rawlinson either. The British government sent out an expedition with the *HMS Challenger* between 1872 and 1875, and the venture was expensive.<sup>33</sup> As Lowe and Goschen replied in a letter to Rawlinson, the cost of the *Challenger* was considerable. Therefore, "under these circumstances, we regret that we cannot recommend the sending an Exploring party to the Arctic Ocean as a

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<sup>28</sup> Ibid.

<sup>29</sup> See also Rae's follow-up letter: John Rae and John C. Wells, "Arctic Exploration," *The Times*, December 31, 1872, 10, Gale NewsVault.

<sup>30</sup> No vital dates

<sup>31</sup> John Campion Wells and B. Leigh-Smith, "Arctic Exploration," *The Times*, November 19, 1872, Gale NewsVault; Rae and Wells, "Arctic Exploration."

<sup>32</sup> Wells and Leigh-Smith, "Arctic Exploration," 10.

<sup>33</sup> Michael S. Reidy, Gary R. Kroll, and Erik M. Conway, *Exploration and Science: Social Impact and Interaction* (Santa Barbara California: ABC-CLIO, 2007), 96–97.

Government Enterprise this year.”<sup>34</sup> However, economic factors were not the only consideration. As Marvin Swartz and Frank Herrmann have noted, the question was not only what economic value colonial possessions could bring in, but also what value there was to not letting potential colonial possessions fall into the hands of their rivals.<sup>35</sup> Because of this, they argue, the Primer Minister “nervously watched the entire globe.”<sup>36</sup> By 1874 Benjamin Disraeli had returned as Prime Minister, and he was very keen to re-assert British dominance in the Arctic. In 1874, Disraeli wrote to Rawlinson that after “having carefully weighed the reasons set forth in support of such an expedition, the scientific advantages to be derived from it, its chances of success, as well as the importance of encouraging that spirit of maritime enterprise which has ever distinguished the English people” his government had determined to organise an expedition to the North Pole.<sup>37</sup>

Disraeli’s support for renewed British presences in the Arctic was linked to the increase of other nations establishing themselves as powers in the Arctic. As discussed in the previous chapters, whereas the Magnetic Crusade and the search for the lost Franklin expedition generated international collaborations, these were not fully working together with intent at an official level. Another example of the

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<sup>34</sup> Royal Geographical Society of Great Britain, ed., “Sessions 1872-73,” *Proceedings of the Royal Geographical Society of London*, 1873, 77.

<sup>35</sup> Marvin Swartz, *Politics Of British Foreign Policy In The Era Of Disraeli And Gladstone* (New York: St. Martin’s Press, 1985), 12.

<sup>36</sup> Ibid.

<sup>37</sup> Great Britain. Admiralty., *Arctic Expedition: Papers and Correspondence Relating to the Equipment and Fitting Out of the Arctic Expedition of 1875, Including Report of the Admiralty Arctic Committee. Presented to Both Houses of Parliament by Command of Her Majesty.* (London: Printed by George Edward Eyre and William Spottiswoode, 1875), 17.

increase in international scientific partnerships is the expeditions to observe the transit of Venus in 1874.<sup>38</sup> However, nationalism was a central stumbling block for any true international collaboration to take place in the nineteenth century.<sup>39</sup> The First IPY, as examined in section four, was, therefore, different from previous international joint efforts in the Arctic. Arctic explorations in the 1870s and 1880s were accordingly characterized by national and imperial concerns about territorial control in the Arctic, as well as increasing international scientific collaboration. The links between the nation state and globalization are complicated, as is the role of science in this. Several approaches to the history of globalization have been suggested in the literature. The definition of globalization effectively shapes the answer to questions about the existence or influence of globalization. For the purpose of this thesis, I make use of Jürgen Osterhammel's conceptualization of globalization as "the development, concentration, and increasing importance of worldwide integration".<sup>40</sup> This is similar to Christopher Bayly's conception of the history of globalizations as the "growing interconnections within the world as such".<sup>41</sup> In *Globalizing Polar Science*, Marc Rothenberg addressed three ways of conceiving the title of that edited collection. The global, he argued, can refer to the breaking down of national boundaries within the scientific community itself, the position that certain scientific questions require a global approach, and as the

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<sup>38</sup> See for example: Ratcliff, *The Transit of Venus Enterprise in Victorian Britain*; Crosland, *Science Under Control*, 376–80.

<sup>39</sup> Rothenberg, "Making Science Global? Coordinated Enterprises in Nineteenth-Century Science," 28.

<sup>40</sup> Osterhammel and Petersson, *Globalization*, 26.

<sup>41</sup> Bayly et al., "AHR Conversation," 1446.

expansion of Euro-American science to other areas of the world.<sup>42</sup> There is yet another way of understanding global science. Sujit Sivasundaram has suggested a method for global history of science called ‘cross-contextualization’. Here the global indicates the choice of sources, and “involves reading across genres and culture.”<sup>43</sup>

Sivasundaram noted that historians have relied almost solely on European accounts and sources. In addition to considering the use of non-traditional sources such as palm-leaf manuscripts and monuments, Sivasundaram’s ‘cross-contextualization’ also refers to reading the European source within the extra-European material, and vice versa.<sup>44</sup> The issue of sources and global history has been addressed more extensively outside of history of science. A key example is Julie Cruikshank’s ground-breaking book, *Do Glaciers Listen* (2010), which demonstrated that perceptions of glaciers differed significantly between European explorers and Indigenous oral traditions.<sup>45</sup> Cruikshank’s study combines oral history with material culture, environmental history, and traditional European sources. Cruikshank and Sivasundaram both show the exciting possibilities of writing history that makes use of non-traditional sources. Drawing on these considerations, section one examines the first Arctic travel narrative written by an Inuit explorer, Hans Hendrik.

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<sup>42</sup> Rothenberg, “Making Science Global? Coordinated Enterprises in Nineteenth-Century Science,” 23.

<sup>43</sup> Sivasundaram, “Sciences and the Global: On Methods, Questions, and Theory,” 146.

<sup>44</sup> *Ibid.*, 154.

<sup>45</sup> Cruikshank, *Do Glaciers Listen?*

Hendrik participated in four Arctic expeditions that all went through Smith Sound, and his Arctic travel narrative was a memoir that reflected on all of them. He was the first Inuk to publish an account of the Arctic, but he was by no means the only Indigenous person to write about their experiences with European explorers. Section two considers the reversal of the typical (British) nineteenth-century travel account, when the observer is the Indigenous person and the observed is the (British, Euro-American, and Danish) Western culture and peoples while exploring the Arctic. As a source, Hendrik's narrative is unique due to the background of its author, but the format of the travel narrative is familiar. That said, Hendrik's stylistic negotiation of the travel narrative genre was distinctively different to the other narratives examined in this thesis. Hendrik's narrative, its production, publication, and reception reveal the tensions between the reliance of explorers on support from Indigenous communities, and the perception of these men and women as less civilized. When it came to points of difference in the experience of Arctic explorations, who had the authority, and how was the authority justified? This leads to a discussion of Cruikshank's key points about translation between oral tradition and written text, and Frantz Fanon's stages for the writings of colonized peoples, in relation to what constitutes an authoritative representation of the Arctic.<sup>46</sup>

Following Hendrik's last mission in search of the North Pole as part of George Nares' expedition, there was very little support for British participation in the IPY. This was also the case in Canada. The First IPY took place between 1882 and 1883.

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<sup>46</sup> Frantz Fanon, *The Wretched of the Earth*, New translation, first published in 1963 (New York: Grove Press, 2007).



The collaboration resulted in a total of fourteen expeditions, twelve of which were in the Arctic or sub-Arctic. The countries that participated were Denmark, United States, Sweden, Russia, Norway, Netherlands, Germany, France, the Austro-Hungarian Empire, Finland, Canada and Britain.<sup>47</sup> In 1874, the Bremen Association for the German North Polar Passage established a committee that advocated an international collaboration in the Arctic with several observatory stations. Invitations were sent to Britain, Sweden, Norway, Russia and the United States.<sup>48</sup> This led to the first International Polar Congress in Hamburg in October 1879.<sup>49</sup> It was not an easy task to organize an international collaborative effort of this scale. After the Second International Polar Conference took place in August 1880, only four countries were committed to securing the finances required for participation: Denmark, Russia, Norway, and Austria.<sup>50</sup> However, by May 1881, the Netherlands, the United States, and France also committed to setting up stations, followed by Sweden in June.<sup>51</sup> At the third polar conference in August 1881, there was a notable absence of Britain. In contrast with the optimism and enthusiasm that preceded the Nares' expedition, the British response to the suggested IPY was surprisingly uninterested. As section four shows, the character of the expeditions under the IPY

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<sup>47</sup> Detailed accounts of the IPY include: Baker, "The First International Polar Year, 1882–83"; Launius, Fleming, and DeVorkin, *Globalizing Polar Science*; Barr and Lüdecke, *The History of the International Polar Years (IPYs)*; Zhou, *The Histories of the International Polar Years and the Inception and Development of the International Geophysical Year*.

<sup>48</sup> Levere, *Science and the Canadian Arctic*, 313.

<sup>49</sup> Barr and Lüdecke, *The History of the International Polar Years (IPYs)*, 50.

<sup>50</sup> *Ibid.*, 16.

<sup>51</sup> *Ibid.*, 21.

was fundamentally different to the Arctic explorations organized by Britain in the past, and this was a major reason for the hesitation.

Three of the 12 Polar Stations in the Arctic were located within the Canadian Arctic: the German station by Kingua Fiord on Baffin Island, the American station in Lady Franklin Bay, and the British station at Fort Rae in the North-West territories. However, while Canada was invited to participate at the International Polar Conferences, there was no Canadian organized Polar Station as part of the IPY. The Canadian involvement in the British station at Fort Rae was supportive, but did not take part in determining the make up of the expedition. Following Confederation in 1867, Britain transferred the remaining islands in the High Arctic that were not already part of the Dominion to Canada in 1880.<sup>52</sup> As with the Danish claim to territorial ownership in Greenland, as discussed in section three, there were complications with making a stake for imperial governance in an area that had not been fully charted yet. As Trevor Levere has pointed out, while the Canadian government (and the HBC) had made huge advances in mapping the country with the Geological Survey, the focus of the IPY was not in geography but meteorology and geophysics.<sup>53</sup> In addition, the Royal Society of Canada was only founded in 1882, and thus could not lobby for Canadian participation in the IPY the same way such societies had done in other countries.<sup>54</sup> For Canada and Britain, the expenditure associated with participation in the IPY was not easily justified. The style and objective of the proposed Polar Stations did not fit with the British trope of heroic

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<sup>52</sup> Grant, *Polar Imperative*, 95.

<sup>53</sup> Levere, *Science and the Canadian Arctic*, 322–33.

<sup>54</sup> *Ibid.*, 323.

Arctic explorations into the unknown. While Canada through the HBC had plenty of experience in establishing stations in the Arctic, and there had been a fruitful collaboration with the American museums such as the Smithsonian in collecting natural history specimens, the primary motivation for Arctic expeditions had nearly always been geographical surveying, with other scientific goals occupying a secondary concern. From this perspective, a focus on science relating to geophysics was a hard sell. Global science, as understood in the first of the three definitions outlined by Rothenberg, was made difficult to achieve in part because of the significant geo-political instability and competition between nations vying for control over imperial assets, as well as perceptions of the proper style and objectives of Arctic exploration.

## **2. The farthest North: Hans Hendrik's many Arctic expeditions**

Our author affords a striking example of the independence of his nation, of the climate within their vast territories, as well as of aid from foreign nations.<sup>55</sup>

- Hinrich Rink, *Memoires of Hans Hendrik*, 1878

Increased international collaborations in the Arctic reflect the globalization of Arctic science from an organizational standpoint. Another way of approaching the global historically has to do with the choice of sources. This section explores the

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<sup>55</sup> Rink included a preface in Hendrik, *Memoirs of Hans Hendrik*, 2.

representation and construction of the Arctic through a comparison of Hans Hendrik's *Memoirs of Hans Hendrik, the Arctic traveller, serving under Kane, Hayes, Hall and Nares, 1853–1876* and George Nares' *Narrative of a Voyage to the Polar Sea during 1875-6 H.M. Ships "Alert" and "Discovery"*.<sup>56</sup> In 1875, Hans Hendrik embarked on an expedition to the Arctic under the command of Nares. This was Hendrik's fourth Arctic expedition as an experienced Arctic explorer and translator. Like Petersen, whom I discussed in chapter three, Hendrik played an important part of the expeditions he participated in because he was a translator, expert Arctic traveller, and hunter. He was part of an impressive number of Arctic expeditions, three American and one British. Moreover, as the Danish newspaper, *Aarhus Stifts-Tidende* reported, he was, "the only man who has participated in all the famous expeditions through Smith's Sound".<sup>57</sup> Yet, as with Petersen, Hendrik's life and experiences occupy a very minor role in the historiography on Arctic explorations. Aside from his memoir, the main sources on his life and achievements include journal articles published by Rink, who translated Hendrik's memoir, an obituary published in *Geografisk Tidsskrift*, and a pseudo-autobiography, *Hans – the Eskimo*

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<sup>56</sup> Hendrik, *Memoirs of Hans Hendrik*; George S. Nares, *Narrative of a Voyage to the Polar Sea : During 1875-6 in H. M. Ships 'Alert and 'Discovery*, vol. 2, 2 vols. (London: Slow, Marston, Searle, & Rivington, 1878).

<sup>57</sup> Translated from the original Danish: "den eneste Mand, som har deeltaget I alle de berømte Expeditioner gennem Smiths Sund." Anon, "Indland," *Aarhus Stifts-Tidende*, October 26, 1877, Statsbiblioteket, Aarhus Universitet.



Grønlænderen Hans Hendrik og hans Hustru samt deres Børn  
Avgustina, Charlie Polaris og Tobias.  
(Efter Vale Blake: Arctic experiences. London 1874.)

Figure 22 Portrait of Hans Hendrik and his family. Image from Rink, *Geografisk Tidsskrift*, issue 1, 1877, 186

(1934) by Edwin Gile Rich.<sup>58</sup> Hendrik was the first Inuk to publish his own Arctic travel narrative, and his account provides important insights into the role of Inuit employees on the expeditions. It also gives a unique perspective to the construction of the Arctic.

Hans Hendrik was born around 1835 in the small village Fiskernæs, on the south-west coast of Greenland. Fiskernæs consisted of a trading station of the same name, and a missionary station.<sup>59</sup> It was a small village, and so poor that the inhabitants did not have boats to travel by in the summer period.<sup>60</sup> Hendrik received his education from missionaries. As discussed in the previous chapter, the Christian mission played an influential role in Greenland. The mission in Fiskernæs was different to the one examined in the previous chapters. These were missionaries from the evangelical-Lutheran inspired Moravian missions (*Mähriske brødre*) also known as the 'Herrnhuterian mission'. The mission was founded around 1720 in Moravia, and three missionaries from the movement arrived in Greenland in 1732 with royal permission from King Christian VI. In the first half of the nineteenth century, a high-ranking missionary from the group, Konrad Kleinschmidt (1768-1832) had the New and Old Testament translated and

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<sup>58</sup> Edwin Gile Rich, *Hans, the Eskimo. His Story of Arctic Adventure with Kane, Hayes, and Hall* (Boston: Houghton Mifflin, 1934); C. Ryder, "Grønlænderen Hans Hendrik," *Geografisk Tidsskrift* 10 (January 1, 1890), <https://tidsskrift.dk/index.php/geografisktidskrift/article/view/38959>. See also Rolf Gilberg, "Hans Hendrik (Suersaq)," in *Encyclopedia of the Arctic*, ed. Mark Nuttall (New York: Routledge, 2012), 852–53; Iben Bjørnsson, "The Tale of Hans Hendrik," *The Arctic Journal*, October 7, 2016, <http://arcticjournal.com/culture/2609/tale-hans-hendrik>.

<sup>59</sup> Hendrik, *Memoirs of Hans Hendrik*, 3.

<sup>60</sup> *Ibid.*

published in Greenlandic. In spite of this, the sect did not originally prioritize the education and training of the Indigenous peoples, and their later efforts were not enough to keep the Danish government from closing the mission and transferring their authority to the Danish mission in 1889.<sup>61</sup>

The Moravian mission had a detrimental influence on the villages where they functioned. While children were taught to read and write, they were discouraged from learning how to hunt.<sup>62</sup> Fiskernæs was a poor village, and Hendrik's family fell on even harder times when his father Benjamin passed away in 1852. Hendrik took over the primary responsibilities of bringing in an income for his family, and was evidently a skilled hunter.<sup>63</sup> His abilities did not go unnoticed, and he was recommended to participate in Kane's expedition in search of the lost Franklin expedition on board the *Advance*. Hendrik agreed as he could use the opportunity to bring in extra funds to his mother Ernestine and his brothers. Hendrik was either 18 or 19 years old at this point. The Kane expedition was a miserable one, and, as Petersen described in his narrative discussed in chapter three, Hendrik effectively deserted from the expedition and settled in Smith's Sound. Hendrik's second expedition was an American one under the command of Hayes. Hayes acted as the surgeon during the Kane expedition, and knew Hendrik well.<sup>64</sup> The ship, *United*

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<sup>61</sup> Preben Andersen, "Herrnhutterne I Grønland," *Tidsskriftet Grønland*, no. 2 (1969): 50–64.

<sup>62</sup> Mads Lidegaard, "Hans Hendrik Fra Fiskernæsset," *Grønland* 8 (1968): 249.

<sup>63</sup> *Ibid.*, 249–50.

<sup>64</sup> For an account of the Kane expedition with focus on the scientific aspects, see David Chapin, *Exploring Other Worlds: Margaret Fox, Elisha Kent Kane, and the Antebellum Culture of Curiosity* (Amherst, Boston: University of Massachusetts Press, 2004), 54–74.

*States* was damaged by ice, and froze in around Foulke Bay in Smith Sound, and the expedition was further troubled by the loss of their dogs to illness. Hendrik and August Sonntag (1832-1860), the German-American Astronomer, and second-in-command under Hayes, left the ship in an attempt to reach the Inuit settlement at Cape Alexander. According to Hendrik, Sonntag broke through an area of thin ice and later froze to death.<sup>65</sup> Hendrik's association with the death of another crew member, the Inuit hunter and dog-driver, Peter (d. 1860), was also questioned. Peter ran away from the ship, after Hendrik allegedly had convinced him that the Americans would shoot him, and he was later found frozen to death.<sup>66</sup> Hendrik's third expedition on board the *Polaris* was equally dramatic.<sup>67</sup> Charles Francis Hall had command of the expedition, which left New York on 29 June 1871. Hall passed away that same year. In the summer of 1872, the crew was able to free the *Polaris* from its winter-quarters. However, the ship was again overtaken by ice and in October the ship was so heavily damaged that the crew left the ship with their provisions and sought refuge on a sheet of ice. Half the crew were left on the ice, and the other half drifted off with the *Polaris*. The crew left on the *Polaris* managed to get to the shore, and were later rescued by a whaling ship. The crew on the ice sheet drifted for six months before they were rescued. At this point the ice had drifted

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<sup>65</sup> Hendrik, *Memoirs of Hans Hendrik*, 9.

<sup>66</sup> *Ibid.*

<sup>67</sup> For a detailed account of Hall's expedition, see: Bruce B. Henderson, *Fatal North: Adventure and Survival Aboard USS Polaris, the First U.S. Expedition to the North Pole* (New York: New American Library, 2001).



close to Newfoundland, a distance of around 1500 geographical miles.<sup>68</sup> Hendrik brought along his wife and children on both his second and third expeditions. One of Hendrik's children was born during the expedition, and named Charles Polaris, after the late Hall and the wrecked ship.

Although the first three expeditions by all accounts were horrible, Hendrik agreed to participate in the British Arctic Expedition between 1875 and 1876 under George Nares. In the meantime, Hendrik's wife had passed away and he had remarried. This time he did not bring his family with him, and described how "as I was now going to depart, I pitied my wife and my little children who were so attached to me".<sup>69</sup> Hendrik did not account for why he did not bring his family with him, as he had during the previous expeditions. Despite the warnings of people like Rae and Wells, as outlined in section one, the Admiralty followed the recommendation of the Arctic Committee and Nares to go through Smith Sound. Also despite Rae's recommendation that the expedition be scaled down, the format of Nares' expedition followed that of the British expeditions before it. While Rae had showed the importance of adopting Indigenous methods for travelling and surviving in the Arctic, such as the use of snow-shoes, the Admiralty evidently disregarded these recommendations. The format followed by the British Admiralty was to send out two large ships, fitted with lots of provisions, a large crew, and expensive scientific equipment. The British expeditions in search of the North West Passage had shown that their expedition style was ill suited for Arctic exploration, yet they

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<sup>68</sup> Richard Sale, *To the Ends of the Earth: The History of Polar Exploration* (London: Harper Collins, 2002), 110.

<sup>69</sup> Hendrik, *Memoirs of Hans Hendrik*, 84.

stuck to this style even in the face of repeated disasters. This was a serious mistake. The sledges were too heavy, the tents too small, and the crew suffered horribly from scurvy.<sup>70</sup>

Nares made several brief references to Hendrik in his narrative. Additionally, in the *Official Report of the Recent Arctic Expedition*, Nares provided the following biography of Hendrik: “All speak in the highest terms of Hans, the Esquimaux, who was untiring in his exertions with the dog-sledge, and in procuring game — it was owing to his patient skill in shooting seal that Dr. Coppinger was able to regulate the diet somewhat to his satisfaction.”<sup>71</sup> From this, it would appear that Hendrik functioned primarily as a hunter and dogsled driver. During the winter period, Hendrik described how he was left largely without anything to do, as he “was not engaged for sailor’s work, but only as hunter, sledge-driver and dog feeder. This is what I had promised on leaving my home.”<sup>72</sup> However, during his narrative Hendrik portrayed his role very differently. The difference between the portrayal of Hendrik’s role in his and Nares’s narrative is particularly striking in the account of an instance where they had to transport the sick crew. In August, when the ships were lodged in ice, Lieutenant Lewis Beaumont was in charge of a team to survey the north coast of Greenland around Polaris Bay. The crew began to suffer from scurvy, and they organized a return party that, according to Nares’s *Official Report*, was

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<sup>70</sup> Bella, “British Arctic Expedition,” in *Antarctica and the Arctic Circle: A Geographic Encyclopedia of the Earth’s Polar Regions*, ed. Andrew Jon Hund (Santa Barbara, Denver, Oxford: ABC-CLIO, 2014), 162.

<sup>71</sup> George Strong Nares, *The Official Report of the Recent Arctic Expedition* (London: John Murray, 1876), 72.

<sup>72</sup> Hendrik, *Memoirs of Hans Hendrik*, 89.

“helped by Hans”.<sup>73</sup> Nares gave more credence to Hendrik in his narrative, where he noted that it was “mainly due to Hans’ clever management of the dogs, and his skill as a driver, that we were enabled to advance so rapidly with such a heavy load.”<sup>74</sup> Hendrik went into further detail and described how he transported the four sick men, going back and forth with two men at a time. They relied on him, Hendrik noted, to find the safe routes through the snow and ice, as Nares would say “go with us as a guide”, and ask him “which way are we to go?”<sup>75</sup> In other instances, Nares’s narrative did not make any note of the events Hendrik recounted in his memoir. For example, Hendrik described how “When bright daylight had set in, the Captain and I used to travel about by sledge, to measure the height of the mountains.”<sup>76</sup> During the three months of winter, he “also did duty as the Captain’s sledge-driver in surveying the country and climbing the hills”.<sup>77</sup> This reveals that Hendrik accompanied Nares when he surveyed, which would suggest some level of friendship between the two. As Hendrik noted, “I was lucky the Commander treated me as a comrade; I did not feel shy in speaking with him, as with other gentlemen.”<sup>78</sup> In addition, Hendrik surveyed the land without Nares, as “when he [Nares] remained at home, I went alone.”<sup>79</sup> Nares and Hendrik surveyed and travelled together at several points, and the expedition relied on Hendrik’s help in employing Indigenous informants. For

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<sup>73</sup> Nares, *The Official Report of the Recent Arctic Expedition*, 70; George S. Nares, *Narrative of a Voyage to the Polar Sea*, 2:82, 96–97.

<sup>74</sup> George S. Nares, *Narrative of a Voyage to the Polar Sea*, 2:111.

<sup>75</sup> Hendrik, *Memoirs of Hans Hendrik*, 97.

<sup>76</sup> *Ibid.*, 91.

<sup>77</sup> *Ibid.*, 89.

<sup>78</sup> *Ibid.*, 97.

<sup>79</sup> *Ibid.*, 89.

example, the expedition visited a settlement by Ivnanganek (Cape York), to secure the assistance of a man named Augina. While they were unable to locate Augina “after having searched in vain for him whom I wished to engage”, Hendrik’s account of their visit to the settlement shows how his participation in three previous expeditions had provided him with an intimate knowledge of all aspects of the region.<sup>80</sup> It was Hendrik’s choice to visit this particular settlement where they “parted company with the other ship, to visit the native settlements, and try to find the man I wished to take along with me.”<sup>81</sup> Yet, Nares did not explicitly make mention of this in his narrative, and not at all in the context of his geographical surveying.

Another more dramatic event that was also not recollected in Nares’ narrative provides a window into how European explorers treated their Greenlandic employees. During the winter period, Hendrik repeatedly heard other crewmembers talking about him. One evening he overheard them plan a physical assault on him, “When Hans is to be punished, who shall flog him?”<sup>82</sup> Hendrik became so depressed, that he decided to walk out into the snow, as “If I should freeze to death it would be preferable to hearing this vile talk about me.”<sup>83</sup> Hendrik thus left the ship during the night and had walked for about five miles when he changed his mind. He turned back and slept in the snow close to the ship, in the

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<sup>80</sup> Ibid., 86.

<sup>81</sup> Ibid.

<sup>82</sup> Ibid., 89.

<sup>83</sup> Ibid., 90.

hopes that Nares would search for him.<sup>84</sup> Nares did send people out to look for him and told Hendrik to let him know if the men spoke about him like that again:

I afterwards heard them speaking several times in the same way, but, nevertheless, did not mention it, because I supposed that, if I reported it, none of them would like me more.<sup>85</sup>

A review of *Memoirs* in *The Athenaeum* commented upon the implications of this event, noting that “It is indeed not a little humiliating to find that he was always in terror of being flogged, both on board the American and English expeditions.”<sup>86</sup> The account reveals not only the isolation Hendrik felt during the expedition, and the derogatory way he was treated by some of the crew. It also shows what the contributors to the collection, *Implicit Understandings* (1994), described as ‘implicit ethnography’ on both sides of the encounter.<sup>87</sup> The comparison with Nares’ *Narrative* and Hendrik’s *Memoirs* reveal how there was a tacit process of conceptualization of oneself and the other on both sides of the encounter between European explorer and Indigenous Greenlander. Hendrik himself wrote that he did not know if he had “thoroughly understood their meaning” and had no “particular

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<sup>84</sup> Ibid., 90–91.

<sup>85</sup> Ibid., 91.

<sup>86</sup> Anon, “Book Review,” *The Athenaeum*, no. 2661 (October 26, 1878): 527.

<sup>87</sup> The concept of implicit ethnography and implicit understanding is described in detailed in the introduction to the collection, Schwartz, *Implicit Understandings*, 1–20.

purpose” for writing about their intentions to flog him.<sup>88</sup> Yet, Hendrik’s account and Rink’s decision to keep it in the published narrative were very poignant critiques of European colonial power in Greenland.

Hendrik’s narrative was translated from Greenlandic to English by Hinrich Rink, Director of the Royal Greenland Board of Trade. The issue of translation raises several questions. First and foremost, how true was the translation to its original? Julie Cruikshank has emphasised some of the problems associated with the translation or retelling of oral narratives from the original languages to English.<sup>89</sup> These differences relate to more explicitly apparent grammatical issues and narrative conventions, such as sentence structure, and gender distinctions.<sup>90</sup> Of equal significance are the subtle differences in tacit knowledge and assumptions.<sup>91</sup> In *The Wretched of the Earth* (1961) Frantz Fanon divided the writings of colonized peoples into three stages. In the first ‘imitative’ stage, the literature copies the form of the colonial masters. The second stage rejects these paradigms, while expressing a nostalgia for the perceived authentic Indigenous. The third ‘fighting’ stage rejects the literature of both the first and second stage to create a new democratic, postcolonial literature and culture.<sup>92</sup> Drawing upon this, Michael Wilson examined the linguistic and stylistic form of Native American literature. Wilson argued that the genre and stylistic choices were not neutral, but an expression of the

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<sup>88</sup> Hendrik, *Memoirs of Hans Hendrik*, 89–90.

<sup>89</sup> Cruikshank, *Do Glaciers Listen?*

<sup>90</sup> *Ibid.*, 76–77.

<sup>91</sup> *Ibid.*, 66.

<sup>92</sup> Michael Groden, Martin Kreiswirth, and Imre Szeman, eds., *Contemporary Literary and Cultural Theory: The Johns Hopkins Guide* (Baltimore: The Johns Hopkins University Press, 2012), 155–57. Fanon, *The Wretched of the Earth*.

hierarchical relationship between the Indigenous and imperial practices.<sup>93</sup> His approach sees literature as a dialogic exchange, with different levels of resistance, emulation, and novelty. Following Fanon's delineation, *Memoirs of Hans Hendrik*, was imitative of the British, Danish, and North American travel narratives he may have read or heard about. Yet, Hendrik's narrative presented the Arctic differently to the Arctic narratives examined in the previous chapters. This difference is particularly evident when comparing Nares' narrative from the same expedition.

There are several key differences between Hendrik's and Nares' accounts of the expedition. Nares, *Narrative of a Voyage to the Polar Sea*, followed the standard travel narrative format. It was published in two volumes, followed a day-to-day format, and included a large Appendix with extensive scientific results. It also made use of the well-known tropes of the heroic Arctic explorers, and was full of drama that emphasized the danger of the Arctic. By contrast, Hendrik's *Memoirs* was almost completely void of this type of rhetoric. Hendrik's *Memoirs* was a retrospective account of his expeditions, and the chronology of events was not clearly demarcated. Rather, each of the four expeditions was recounted as a story. The chronology of Hendrik's narrative is one area where Wilson's and Fanon's notion of resistance and emulation becomes clear. Building on Edward Casey's distinction between space and place, and Jonathan Boyarin's reflections about time in relation to place, Cruikshank makes the point that the tacit knowledge in North American Aboriginal oral histories also includes the conjunction of place, space, and

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<sup>93</sup> Michael D. Wilson, *Writing Home: Indigenous Narratives of Resistance* (Michigan State University Press, 2008), x.

time.<sup>94</sup> As Cruikshank's study shows, memoirs of the past can be centered on places, just as on time. Where Hendrik listed dates, it was primarily when he recounted the number and type of game he had caught, all information that was important for hunters. Yet, instances that would appear of much greater significance, such as when abandoned the ship and walked into the interior of the ice away, were only dated with reference to "the dark season".<sup>95</sup> One explanation for this is offered by Rink, who noted in the introduction to *Memoirs* that Hendrik had kept written notes from his expeditions. These notes, which I unfortunately have not been able to locate, were said to have described the country they surveyed, and its inhabitants. According to Rink, the majority of *Memoirs*, was compiled from memory.<sup>96</sup>

Rink made several editorial changes to Hendrik's text in his translation. He noted,

The manuscript is written in tolerably plain and intelligible Greenlandish. But, as this is still a difficult language, as the writer is an unlearned man, and as I had nobody at hand to assist me, some words here and there remained inexplicable or doubtful, and some sentences unclear.<sup>97</sup>

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<sup>94</sup> Cruikshank, *Do Glaciers Listen?*, 65–68; Edward S. Casey, *Getting Back into Place: Toward a Renewed Understanding of the Place-World* (Bloomington, Indianapolis: Indiana University Press, 1993); Jonathan Boyarin, ed., *Remapping Memory: The Politics of TimeSpace* (Minneapolis: University of Minnesota Press, 1994).

<sup>95</sup> Hendrik, *Memoirs of Hans Hendrik*, 89–91.

<sup>96</sup> *Ibid.*, 20.

<sup>97</sup> *Ibid.*



Rink indicated those instances where he was uncertain throughout the memoir. He also maintained Hendrik's spelling of personal names. This also added an air of authenticity to the memoir. While large extracts were published in Danish in the *Geografisk Tidsskrift* in 1877, the full memoir was only published in English. Rink was a humanitarian, believing he could embetter the lives of Greenlandic peoples. Rink received his early education at Sorø Akademi and his doctorate at the University of Kiel.<sup>98</sup> Rink acted as the geologist on board the Danish expedition to circumnavigate the world on the *Galathea* between 1845-1847. He moved to Greenland in 1848, where he took up several high-ranking administrative positions. In 1853 he married Nathalie Sophie Nielsine Carlonie Møller (1836-1909), know as Signe Rink. Signe was born and raised in Greenland, the daughter of colonial administrator in Paamiut, Jørgen Nielsen Møller (1801-1862).<sup>99</sup> She published several books and articles about Greenland, in particular on the subject of the ethnology of Greenland, and she translated several books. Together Rink and Signe were part of founding the first newspaper in Greenland, *Atuagagdliutit* in 1861, which was published in Greenlandic.<sup>100</sup> The couple were both active in trying to embetter the living conditions of Indigenous Greenlanders. Rink's obituary reflects

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<sup>98</sup> The most detailed biographies of Rink are: Knud Oldendow, *Grønlandervennen Hinrich Rink : Videnskabsmand, Skribent Og Grønlandsadministrator*, Det Grønlandske Selskabs Skrifter 18 (Det Grønlandske Selskab, 1955); Ole Marquardt, "Between Science and Politics: The Eskimology of Hinrich Johannes Rink," in *Early Inuit Studies: Themes and Transitions, 1850s-1980s*, ed. Igor Krupnik (Smithsonian Institution, 2016), 35–54.

<sup>99</sup> Bodil Kaalund, *The Art of Greenland: Sculpture, Crafts, Painting*, trans. Kenneth Tindall (Berkeley: University of California Press, 1983), 164.

<sup>100</sup> Pamela R. Stern, *Daily Life of the Inuit* (Santa Barbara California: Greenwood, 2010), 129.

upon the way he perceived himself in opposition to KGH.<sup>101</sup> The KGH, Rink believed, did not work with the interests of Inuit in mind. In 1877, Rink gave a talk in the Royal Danish Geographical Society (*Det Danske Geografiske Selskab*), where he described how the general wellbeing of Greenlanders had deteriorated significantly during the previous 30 years.<sup>102</sup> One key problem was, according to Rink, that foreigners in Greenland had not appreciated how Greenlanders perceived the cultural differences between them and the foreigners. Rink further addressed this issue in the introduction to Hendrik's memoir, and stressed that the horrible ways Europeans had treated Greenlanders naturally influenced how they interacted with them. Rink wrote that when foreigners came to Greenland with the attitude that the Indigenous population was inferior and could only communicate through interpreters, it was no surprise that they "at times must feel himself misunderstood and wronged."<sup>103</sup> This explained, Rink argued, many of the instances of conflict, misunderstandings, and distrust between European explorers and Inuit men hired to participate on the expeditions. As Rink further argued, the long history of the way Europeans had behaved in Greenland affected Hendrik's perceptions of the Arctic explorers he worked with:

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<sup>101</sup> K. J. V. Steenstrup, "Dr. Phil. Hinrich Johannes Rink," *Geografisk Tidsskrift* 12 (January 1, 1894),

<https://tidsskrift.dk/index.php/geografisktidsskrift/article/view/39017>.

<sup>102</sup> 'Nogle Bemærkninger om de nuværende Grønlænderes Tilstand' in the journal *Geographisk Tidsskrift*.

<sup>103</sup> Hinrich (Henry) Rink, "Nogle Bemærkninger Om de Nuværende Grønlænderes Tilstand," *Geografisk Tidsskrift* 1 (January 1, 1877): 29, <https://tidsskrift.dk/index.php/geografisktidsskrift/article/view/38549>. Hendrik, *Memoirs of Hans Hendrik*, 5.

However, thoroughly to understand the strange suspicions exhibited in some parts of his statement we must consider the traditions still living amongst the Greenlanders about atrocities formerly committed in their country by foreigners, as well as their indistinct ideas of the wars and military discipline of the white men.<sup>104</sup>

Rink's decision to translate and publish Hendrik's memoir was clearly influenced by his commitment to his version of humanitarianism.

Rink emphasised that Hendrik's narrative was trustworthy even when his account of events differed from that of the other explorers. Hendrik had an excellent memory, Rink argued, and as he had not read the other narratives from the expeditions he was not influenced by their accounts. A review in *The Athenaeum* agreed, and further noted that it was "probable that the sketch of Hall's expedition is on the whole more trustworthy than any other we possessed until recently."<sup>105</sup> *The Athenaeum* further noted, that Hendrik's narrative was "not only quaint, but really valuable ... both from an historical and ethnological point of view".<sup>106</sup> Rink translated Hendrik's *Memoirs* into English to give it a broader reading audience. This also meant that Rink was translating into a language that was not his own. Because of this, the English born professor in English at Copenhagen University, George Stephens (1813-1895) edited the memoir. By contrast, rather than following the long introduction by Rink that gave authority to Hendrik's account, Stephens

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<sup>104</sup> Hendrik, *Memoirs of Hans Hendrik*, 5.

<sup>105</sup> Anon, "Book Review," October 26, 1878, 527.

<sup>106</sup> *Ibid.*

somewhat undermined Hendrik's authority in one swift brush by stating that "I thought it best to let Hans Hendrik write in the naive way to be expected from such a child of nature."<sup>107</sup> Variations of this description of Indigenous peoples in Greenland and North America as 'children of nature' were present in much of the literature about the Arctic, as discussed in the previous chapters. As chapter two showed, the rhetoric of the civilizing mission in Greenland combined the conversion of the Indigenous population to Christianity with an acute sense of superiority – they were brothers in Christ, but not equal.

The review that appeared in *The Examiner* is a good example of this rhetoric, and the tension it created in relation to Hendrik's authority as a first-hand observer of the Arctic. The review noted that "A literary composition by a pure-blooded and unsophisticated Eskimo must always be interesting" and that Hendrik had a "reputation of being the most truthful individual".<sup>108</sup> On the one hand, Hendrik was portrayed as an uncivilised 'child of nature'. This racist rhetoric was countered by the feeling that Hendrik was truthful in his observations about the behaviour of the European men he had travelled with, and an acknowledgement that his geographical and ethnographic observations were valuable. The review in *The Athenaeum* downplayed his education, which would "not allow of many rhetorical flourishes."<sup>109</sup> The reviewer assumed that Hendrik was uneducated and described *Memoirs* as a "quaint, simple narrative, with all its blunders in orthography,

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<sup>107</sup> Hendrik, *Memoirs of Hans Hendrik*, 20.

<sup>108</sup> Anon, "Memoirs of Hans Hendrik, the Arctic Traveller.," ed. Leigh Hunt, *Examiner*, no. 3694 (November 16, 1878): 1465.

<sup>109</sup> Anon, "Book Review," *The Athenaeum*, no. 2661 (October 26, 1878): 527.

geography, and nomenclature, bears the obvious marks of stern fidelity to the truth.”<sup>110</sup> However, the Moravian mission was criticised more for discouraging Greenlandic children to learn how to hunt than for their lack of scholastic efforts. Hendrik spoke Greenlandic, Danish, and English, and he could read and write. He was a trusted guide both for navigating the icy landscape, and in negotiating the assistance of Indigenous peoples along the way, so much so that the captains of four expeditions deliberately chose him for their missions. Hendrik was a key person to assist in translating the ethnographic aspects of what Michael Bravo has termed the ‘geographical gift’, as discussed in the previous chapters.<sup>111</sup> In addition, Hendrik grew up as a Christian, and his parents assisted the clergy at the Moravian mission. Readers of his narrative had little choice but to accept his word as a truthful representation of the expeditions and the Arctic, yet the reviews still positioned him as inferior.

Hendrik was Christian, highly skilled, and had written a narrative that in some instances corrected the information of the other travel narratives from the expeditions he participated in – and he exposed the dark side of how European explorers treated Indigenous Greenlanders. While Hendrik’s *Memoirs* was written in the familiar format of the travel narrative, it broke with the stylistic conventions on several fronts, as shown throughout this section. In this period of increased global science, Hendrik’s narrative fit uncomfortably into the category of accepted sources for knowledge about the Arctic for his contemporary readers. As a go-between,

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<sup>110</sup> Ibid.

<sup>111</sup> Bravo, “Ethnographic Navigation and the Geographical Gift.”

Hendrik had insights into British, Danish, Euro-American, and Greenlandic cultures. However, his expertise was not easily accepted, and the difference in stylistic and narrative structure in his *Memoirs* was used against his authority. From *Memoirs* it would appear that Hendrik did not know the names of the expedition captains. For example, 'Tartikene' refers to 'Doctor Kane', and 'Tart Eise' to Doctor Hayes. The reviews picked up on this as an illustration of Hendrik's poor language skills. However, whereas the correct or exact naming of people and places was a way to show accuracy in travel narratives as a scientific document (recall how 'Crocker Mountains' haunted Ross' career), Hendrik evidently assumed the reader would know who he was referring to. Rink's translation from Greenlandic to English is a key issue here, as is the translation from oral story to written text. It is possible that there were misunderstandings about the use of nicknames, or phonetic spelling of names, as Hendrik likely transliterated their names differently. Without Hendrik's original manuscript, it will remain guesswork. What is certain though, is that it was used as evidence for Hendrik's lower social and educational status. The tension between accepting Hendrik as an authority, and still describing him as a 'child of nature', shows the precarious role Indigenous assistants to Arctic expeditions held as go-betweens. He was a cultural intermediary, and evidently fit uncomfortably into the perception of what Inuit were like and challenged the notions of who constituted an authoritative Arctic writer.

### 3: Science, finance, and Danish imperial ambitions in Greenland

[I]t would seem natural that Greenland, of which the biggest and most thoroughly examined areas belong to the Danish Monarchy, is also described through Danish efforts in its Botanical aspects, as it presumably has been described by Danish scientists in other areas.<sup>112</sup>

- Commission for the Direction of Geological and Geographical Investigations in Greenland, *Meddelelser om Grønland*, 1880

The acceptance or rejection of Hendrik as an authority on the Arctic pertained to the complicated perceptions of who was a trustworthy observer of Arctic phenomena, and his narrative shows the global nature of Arctic science and the Arctic as a contact zone. Rink was a central figure in the publication of Hendrik's narrative, and his ambitions to shape the direction of Arctic research influenced Arctic science beyond his Danish national context. Rink's research programme was shaped by his international network of research affiliates, as well as the ethos of Denmark after the First and Second Schleswig War. The saying "For every loss a replacement can be found, what has been lost outwardly must be regained inwards" coined by the author H.P. Holst (1811-1893) came to symbolise the mood in Denmark after the

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<sup>112</sup> Translated from the original Danish: "det maa synes naturligt, at Grønland, hvis største og bedst undersøgte Del hører til det danske Monarki, ogsaa i botanisk Henseende bliver beskrevet ved danske Kræfter, ligesom det i andre Retninger formentlig er beskrevet ved danske Videnskabsmænd" Kommissionen for videnskabelige undersøgelser i Grønland, *Meddelelser Om Grønland*, vol. 3 (København, C. A. Reitzels Forlag, 1880), XIV.

Second Schleswig war.<sup>113</sup> What had been lost outwardly could be regained through intensified industrial and scientific effort. This included explorations of Greenland, and the first issue of *Meddelelser om Grønland* (est 1879), co-founded by Rink included several discussions on the possible monetary value of increased extraction of minerals in Greenland. While the prospect of an economic payoff was a central factor in the increased interest in the exploration of Greenland, there was also a not insignificant level of national pride associated with these expeditions. *Meddelelser om Grønland* is a representation of this trinity of science, finance, and national pride. As was noted in the third volume, the natural history of Greenland should be examined and catalogued by Danish scientists. This section examines the first expeditions to survey the interior of Greenland under the new Commission for the Direction of Geological and Geographical Investigations in Greenland, led by Knud Johannes Vogelius Steenstrup (1842-1913) and Jens Arnold Diderich Jensen (1849-1936) between 1876 and 1878, as documented in the new journal, *Meddelelser om Grønland*, within the context of the tensions between nation building and increased globalization of Arctic science.

Paradoxically, the national pride expressed over the Danish efforts to survey Greenland was coupled with a sense of being the under-dog. The Danish colonies in India and Africa were lost or sold in the middle of the nineteenth century, but

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<sup>113</sup> Translated from the original Danish: "For hvert et Tab igjen Erstatning findes, hvad udad tabes, det maa indad vindes Niels Kayser Nielsen, "MYTE: Sagde Dalgas 'Hvad Udad Tabes, Skal Indad Vindes?'," Aarhus University, *Danmarkshistorien.dk*, accessed September 17, 2016, [http://danmarkshistorien.dk/leksikon-og-kilder/vis/materiale/myte-sagde-dalgas-hvad-udad-tabes-skal-indad-vindes/?no\\_cache=1](http://danmarkshistorien.dk/leksikon-og-kilder/vis/materiale/myte-sagde-dalgas-hvad-udad-tabes-skal-indad-vindes/?no_cache=1).



Denmark maintained colonial power in other parts of the world including what is now known as the U.S. Virgin Islands. As was noted in the introduction to the first volume of *Meddelelser om Grønland*, anything Denmark achieved in Greenland was done with comparatively limited means to other nations, as “There has been made efforts to adjust them after our own situation, and that no larger project was begun, before it was possible to complete them”.<sup>114</sup> This perception of having to justify any costs associated with Arctic ventures was reflected in the style of the expeditions organized. Small and cheap, the goal was to survey as much as possible. What the expeditions lacked in scale, they made up for in quantity. In the years between 1876 and the IPY, the Danish government organised multiple expeditions to survey Greenland, a total of ten if one includes the 1883-1885 Konebådsexpedition (Women’s boat expedition) to the eastern coast of Greenland. There continued to be one or more expeditions organised per year, which amounted to 31 expeditions by the turn of the century. The expedition findings were typically published as travel reports and in *Meddelelser om Grønland*, and the collected material formed an independent collection at Christiansborg Castle. Unfortunately, the collection was lost in the fire of 1884.<sup>115</sup> Danish research in Greenland was a central part of the redefinition after the war of 1864. Just as *Flora Danica* was available in libraries and folk high schools (*Folkehøjskoler*), as discussed in chapter one, so that everyone could be made acquainted with the Danish kingdom, *Meddelelser om Grønland* was

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<sup>114</sup> Translated from the original Danish: “Det har være tilstræbt, at de afpassedes efter vore egne Forhold, og at ikke større Foretagender sattes i Værk, førend der var Sandsynlighed for, at de vare gennemførlige.” Kommissionen for videnskabelige undersøgelser i Grønland, *Meddelelser Om Grønland*, 1879, 1:15.

<sup>115</sup> *Ibid.*, 1:7.

linked to this ethos of knowledge dissemination. This was not limited to the Danish audience. Danish researchers were increasingly working in collaboration with people from other countries, including Sweden, Norway, the Netherlands, France, England, and Germany.<sup>116</sup> This is reflected in *Meddelelser om Grønland*, which regularly included foreign language abstracts. As was noted in volume one, “As the Danish language is not broadly understood, we have tried to make up for this by accompanying every issue of *Meddelelserne* with a French abstract, as it in this way does not lose the character of being a Danish endeavour.”<sup>117</sup> The goal was both to catalogue the Empire, and make the knowledge available to a broad audience – including researchers from other countries.

Rink was a central figure in establishing *Meddelelser om Grønland* in 1879, as part of the Commission for the Direction of Geological and Geographical Investigations in Greenland (Kommissionen for Ledelsen af de geologiske og geografiske Undersøgelser i Grønland). He played a leading role in determining the research programmes of the expeditions, and a key focus was the unknown interior of Greenland. While Rink chose to focus his publications towards the Danish and English speaking audience, *Meddelelser om Grønland* was originally addressed to the Danish and French speaking readers. English was a marginal language in Denmark throughout the nineteenth century, while French, German, and Latin were the main

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<sup>116</sup> Bravo and Sörlin, *Narrating the Arctic*, 237.

<sup>117</sup> Translated from the original Danish: .” “Da det danske Sprog ikke bliver forstaaet I noget vidt Omfang, have vi søgt at bøde derpaa ved at ledsage ethvert Hefte af Meddelelserne med en fransk Résumé, hvorved det hele ikke mister Charakteren af at være et dansk Arbejde.” Kommissionen for videnskabelige undersøgelser i Grønland, *Meddelelser Om Grønland*, 1879, 1:218.

languages in elite education.<sup>118</sup> Rink, however, wrote for an English speaking audience, as he believed he would there find more readers who were interested in the Arctic. Later volumes of *Meddelelser om Grønland* were also fully translated into English. Perhaps because there were so many, and perhaps because they were largely void of the dramatic element so prevalent in the expeditions organised by the British Admiralty, the Danish exploratory missions to Greenland in this period were largely glossed over by the general British periodical press. The results from the expeditions received some attention in the more specialised journals such as the *Proceedings of the Royal Geographical Society of London*. Of course this was not the case in Denmark, where news about the steady flow of researchers to and from Greenland, and their findings, were recorded in both local and national newspapers.

While the coastline of Greenland was slowly being charted, the middle of Greenland was completely unknown. The first expedition to succeed in crossing Greenland was led by the young Norwegian explorer and scientist, Fridtjof Nansen (1861-1930). Nansen's expedition, consisting of six men, traversed the ice sheet by ski from the eastern to the western coast in 1888. The choice of starting at the eastern coast, rather than by the Danish settlements in the west broke with the plans of previous missions. The reasoning behind this decision was that turning back to the western coast would not be an option for them, as there was nothing to

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<sup>118</sup> Jørgen Sevaldsen, "No Proper Taste for the English Way of Life': Danish Perceptions of Britain 1870-1940," in *Britain and Denmark: Political, Economic and Cultural Relations in the 19th and 20th Centuries*, ed. Jørgen Sevaldsen (Aarhus: Museum Tusulanum Press, 2003), 68–69.

return to, thereby forcing them to complete their goal.<sup>119</sup> In the 1870s however, attempts at penetrating the interior started at the Danish settlements on the western coast. One reason for this change was that the attempts in 1877 and 1878 were only one aspect of the goals of the expedition. Covered by a seemingly unending ice sheet, also known as inland ice (*indlandsis*), the yet impenetrable inland was a source of mystery. What it could reveal about the past Ice Ages, and what was hidden under the ice were key questions. The inland ice in Greenland was central to the development of glaciology. In 1852, Rink published the first detailed reports on the character of Greenland's inland ice.<sup>120</sup> As Krüger has argued, the concept of past Ice Ages implied that there had been huge ice sheets and glaciers, something many thought was completely improbable.<sup>121</sup> Rink's description of Greenland's inland as a vast ice sheet showed not only the possibility of such bodies of ice, but also afforded the opportunity to study the phenomenon. As Korenrup wrote in a section on geological observations in western Greenland in *Meddelelser om Grønland*,

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<sup>119</sup> Janet Martin-Nielsen, *Eismitte in the Scientific Imagination: Knowledge and Politics at the Center of Greenland* (New York, US: Palgrave Macmillan, 2013), 15–17.

<sup>120</sup> Hinrich (Henry) Rink, "Udsigt over Nordgrønlands geognosi, især med hensyn til bjergmassernes mineralogiske sammensætning," in *Om den geographiske beskaffenhed af de danske handelsdistrikter i Nordgrønland, tilligemed en Udsigt over Nordgrønlands geognosi* (København: B.Lunos kgl. hof -bogtrykkeri, 1852), 35–62; Axel Garboe, *Geologiens historie i Danmark: Forskere og resultater*, vol. 2 (København: C. A. Reitzel, 1961), 216.

<sup>121</sup> Krüger, *Discovering the Ice Ages*, 293.

Here you can, as no other place in the world, still today find the forces in action which in past times have shaped Scandinavia, Scotland, North America, and the Greenlandic coastland's ancient rocks.<sup>122</sup>

Rink takes up a marginal role in Krüger's excellent study, as he argues Elisha Kent Kane's travel narrative, which described these enormous glaciers, reached a much larger audience. However, Rink was a central figure who influenced the direction of research in Greenland. In particular, through his work with the Commission and *Meddelelser om Grønland*, Rink was part of a small group of Danish scientists and explorers who effectively controlled the research programme. They believed that the forces at work in the frozen north were the same that had shaped Europe during the Ice Age, and they were influenced by the methods of Abraham Gottlob Werner and Karl Ludwig Giesecke (1761-1833)<sup>123</sup>. Rink in fact did not agree with Kane's descriptions of what he had named the 'Humboldt Glacier' as something unique. This type of glacier could be seen all through the Greenland fjords. Under the coast of North Greenland there are places where the strong water current keeps the water from freezing, in stream-holes. With regards to Kane's assertion that they had seen an open sound, the Open Polar Sea, Rink argued that it was likely just such stream-

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<sup>122</sup> Translated from the original Danish: "Her kan man, som intet andet Sted i Verden, endnu den Dag i Dag finde de Kræfter i Virksomhed, som i længst forsvundne Tider have bearbejdet Skandinaviens, Skotlands, Nordamerikas og det grønlandske Kystlands ældgamle Klipper." Kommissionen for videnskabelige undersøgelser i Grønland, *Meddelelser Om Grønland*, 1879, 1:80.

<sup>123</sup> Giesecke was known as Johann Georg Metzler, Carl Ludwig Giesecke, and Charles Lewis Giesecke at various points during his career

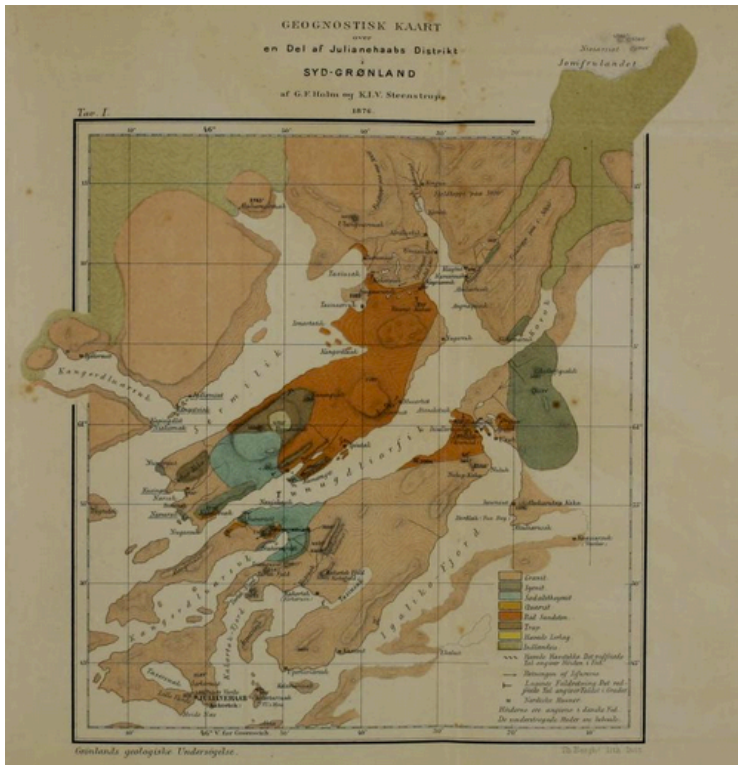


Figure 23 Steenstrup's geognostic map, *Meddelelser om Grønland*, vol 2, 1880, tavle 1<sup>124</sup>

holes.<sup>125</sup> Rink first presented this information that negated some of Kane's – an American – key findings to the English scientific scene at a talk at the Royal Geographical Society of London in 1858. One of those attending, the explorer and officer in the British Navy Richard Collinson (1811-1883), noted that “I think it very fortunate ... that on this occasion we are acting the part of mediators, and not

<sup>124</sup> Kommissionen for videnskabelige undersøgelser i Grønland, *Meddelelser Om Grønland*, vol. 2 (København, C. A. Reitzels Forlag, 1880), tavle 1.

<sup>125</sup> Hinrich (Henry) Rink, “On the Supposed Discovery, by Dr. E. K. Kane, U. S. N., of the North Coast of Greenland, and of an Open Polar Sea, &c.; As Described in ‘Arctic Explorations in the Years 1853, 1854, 1855,’” trans. Dr. Shaw, *The Journal of the Royal Geographical Society of London* 28 (1858): 272–87.

accusers, and that it has fallen to a Dane, and not an Englishman, to write this criticism.”<sup>126</sup>

In 1876 Steenstrup together with the geologist Andreas Nicolaus Kornerup (1857-1881), and naval officer Gustav Frederik Holm (1849-1940), charted the area around Julianehaab (now known as Qaqortoq). Steenstrup, nephew of one of the most influential Danish scientific figures of his time, the zoologist Japatus Steenstrup (1813-1897), had carried out geognostic examination in Greenland in 1871, 1872, and 1874. Since 1864 he worked as the museum assistant at the Mineralogical Museum in Copenhagen. He was a strong choice to lead the expedition. The primary aims of the expedition were to carry out geognostic and geographical examinations of the area, but also to do undertake preliminary examinations of the border of the ice sheet.<sup>127</sup> Because Steenstrup was very familiar with the area from his previous researches, the expedition was able to survey and produce a geognostic map of a very large area of 4000km<sup>2</sup>. There is an interesting difference in the language used between the description of the expedition as it appeared in the first volume of *Meddelelser om Grønland*, and in the 1912 resumé of the journal, *Oversigt over*

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<sup>126</sup> Hinrich (Henry) Rink and Elisha Kent Kane, “On the Supposed Discovery of the North Coast of Greenland and an Open Polar Sea; The Great ‘Humboldt Glacier,’ and Other Matters Relating to the Formation of Ice in Greenland, As Described in ‘Arctic Explorations in the Years 1853-4-5.’” *Proceedings of the Royal Geographical Society of London* 2, no. 4 (1858 1857): 199.

<sup>127</sup> Hans Olav Thyvold, *Fridtjof Nansen: Explorer, Scientist and Diplomat*, trans. James Anderson, Translated from the Norwegian by James Anderson (Font Forlag, 2012); Fridtjof Nansen, *Paa ski over Grønland: en skildring af den Norske Grønlands-ekspedition 1888-89* (H. Aschehoug, 1890).

*Meddelelser om Grønland*.<sup>128</sup> The first volume used the terms geognostic (*geognostisk*) and geological (*geologisk*) interchangeably. In 1912, the term was only used to refer to Steenstrup's geognostic map from 1876. The difference between geognosy and geology is subtle but significant. The term geognosy was coined by Werner to refer to his science distinct from natural history, mineralogy or geology. Werner believed that the term geology was used by speculative writers, and introduced geognosy to differentiate his science of the Earth as firmly based on empirical evidence.<sup>129</sup> As discussed in chapter three, Werner's theories about the Earth and his methodology were highly influential. As chapter three showed, Richardson worked within a variation of the Wernerian notion of universal formation of different physical characteristics of stratigraphy for his research in the Canadian Arctic, and so did Steenstrup. The 'Wernerian radiation', as coined by Rachel Laudan, extended widely. Werner's influence appeared throughout the entire institutional infrastructure of geology on the European continent, which is reflected in the persistence of the use the term 'geognosy', but by the early twentieth century 'geology' had become the standard term.

One person who was particularly significant in shaping the geological examinations of Greenland in the nineteenth century was the German mineralogist and explorer Karl Ludwig Giesecke. An 1801 visit to Werner in Freiberg left a deep impression on Giesecke. Alexander Whittaker has argue this trip, "was particularly

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<sup>128</sup> Kommissionen for Ledelsen af de geologiske og geografiske Undersøgelser i Grønland, *Oversigt over Meddelelser Om Grønland* (København, C. A. Reitzels Forlag, 1913); Kommissionen for videnskabelige undersøgelser i Grønland, *Meddelelser Om Grønland*, 1879.

<sup>129</sup> Oldroyd, *Thinking about the Earth*, 100.



important in demonstrating how [Giesecke's] Greenland scientific work and results managed to be fully up to date within the prevailing geological paradigm, not only in terms of Werner's mineral system, but also within the developing Wernerian ideas on geognosy and geological sequence."<sup>130</sup> Giesecke had close ties with the Danish geological community. He lived in Copenhagen as a mineral dealer, and travelled to Greenland by royal request to undertake a survey of the country's mineral wealth.<sup>131</sup> Giesecke's study of Greenland's mineralogy was hugely influential, and especially so amongst the founding figures of *Meddelelser fra Grønland*. For example, in 1878 the Danish geologist Johannes Frederick Johnstrup (1818-1894), Professor of Mineralogy at the University of Copenhagen, and editor of *Meddelelser fra Grønland* published Giesecke's diary with a supplement by Rink.<sup>132</sup> Johnstrup also published an edition of Giesecke's diary in 1910.

What was under the ice sheet covering Greenland? Giesecke's 'Remarks on the structure of Greenland in support of the opinion of its being an assemblage of Islands, and not a Continent', as published in Scoresby's *Journal of a Voyage to the Northern Whale-Fishery* (1823), influenced the scientific understandings of the interior of Greenland and as such the decisions to send expeditions in search of the

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<sup>130</sup> A. Whittaker, "The Travels and Travails of Sir Charles Lewis Giesecke," in *Four Centuries of Geological Travel: The Search for Knowledge on Foot, Bicycle, Sledge and Camel*, ed. Patrick Wyse Jackson (Geological Society of London, 2007), 154.

<sup>131</sup> Patrick N. Wyse Jackson, "Sir Charles Lewis Giesecke (1761-1833) and Greenland: A Recently Discovered Mineral Collection in Trinity College, Dublin," *Irish Journal of Earth Sciences* 15 (1996): 162.

<sup>132</sup> For more on Johnstrup, see Kristian Rørdam, "Johannes Frederik Johnstrup. Hans Liv Og Virksomhed. Et Blad Af Geologiens Historie I Danmark. I Anledningen Af Hundredaarsdagen for Hans Fødsel Den 12. Marts 1918," *Meddelelser Fra Dansk Geologisk Forening* 5, no. 15 (1918): 1-61; Krüger, *Discovering the Ice Ages*, 374-75.

North Pole through Smith's Sound.<sup>133</sup> Giesecke's paper, which he had sent in a letter to Scoresby, outlined his viewpoint that Greenland was not a continent but consisted of several islands bound together by ice. The implication of this, as later repeated by Kane and Hayes in support of using the Smith's Sound route in search of the North Pole, was that Greenland's connected islands extended into the Open Polar Sea.<sup>134</sup> These two theories, of the connected islands and their linkage to the Open Polar Sea, were persistent. As was proclaimed by Arctic geographer, Robert Brown (1842-1895), in 1875: "Greenland has no Interior! at least if we look upon its interior in the light of something else than ice and snow."<sup>135</sup> Rink, however, was not as willing to speculate on the interior condition of Greenland as Giesecke and Brown. Rather, Rink simply noted, "wherever one attempts to proceed up the fjords of Greenland, the interior appears covered with ice; but there is no reason whatever to assume that this applies to the central part of the country, in which one, on the contrary, just as well may assume that there are high mountain chains, which protrude partly from the ice."<sup>136</sup> Still, in the book *Danish Greenland, its people and its products* (1877), which incidentally was edited by Brown, Rink noted that the

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<sup>133</sup> William Scoresby, *Journal of a Voyage to the Northern Whale-Fishery: Including Researches and Discoveries on the Eastern Coast of West Greenland* (Atchibald, 1823), 467–68.

<sup>134</sup> Royal Geographical Society of Great Britain, *Arctic Geography and Ethnology: A Selection of Papers on Arctic Geography and Ethnology. Reprinted, and Presented to the Arctic Expedition of 1875, by the President, Council, and Fellows of the Royal Geographical Society*. (London: John Murray, 1875), 25.

<sup>135</sup> *Ibid.*, 22. See also: Levere, *Science and the Canadian Arctic*, 270; Barr and Lüdecke, *The History of the International Polar Years (IPYs)*, 60.

<sup>136</sup> Royal Geographical Society of Great Britain, *Arctic Geography and Ethnology*, 86.

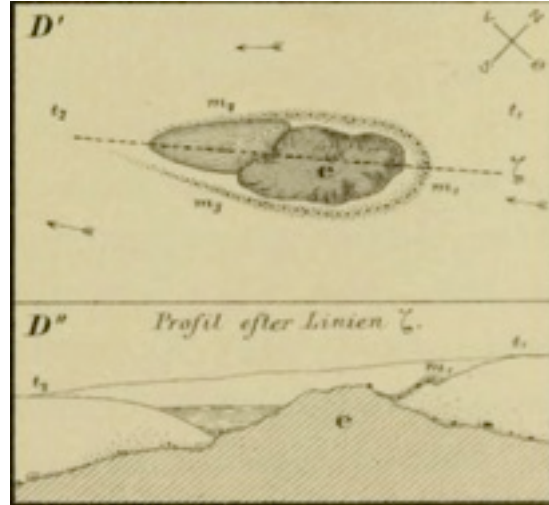


Figure 24 Moraines (m) around a nunatak (e), *Meddelelser om Grønland*, vol 1, 1879, 133<sup>137</sup>

Figure 25 Vandring paa den grønlandske Indlandsis i Aaret 1878, *Geografisk Tidsskrift*, 1879, 106-07<sup>138</sup>



Figure 26 Vandring paa den grønlandske Indlandsis i Aaret 1878, *Geografisk Tidsskrift*, 1879, 106-7<sup>139</sup>

<sup>137</sup> Kommissionen for videnskabelige undersøgelser i Grønland, *Meddelelser Om Grønland*, 1879, 1:133.

<sup>138</sup> J.A.D. Jensen, "Vandring Paa Den Grønlandske Indlandsis I Aaret 1878," *Geografisk Tidsskrift* 3 (1879): 106-7.

<sup>139</sup> *Ibid.*, 106-7.

interior of Greenland was made up of “numerous island throughout the whole of its extent”.<sup>140</sup>

In 1877, Steenstrup and Jensen examined the northern part of Frederikshaabs District. Because of particularly rough weather, they were unable to enter any meaningful distance into the Greenland ice sheet. In spite of this, the expedition generated significant scientific results. In 1878, Jensen travelled back to Greenland as the leader of an expedition to the southern coastline. He was assisted by Kornerup and the architect and painter, Ernst Thorvald Groth (1847-1891).<sup>141</sup> The official instructions gave Jensen free rein with regards to route, and delegation of tasks.<sup>142</sup> The hope was that Jensen’s expedition would be able to survey the coastline from the mountain Tiningnertok to the Ameralik Span. Scientifically the focus was on “all aspects of the physical geography” and “archaeological observations”, as well as specific features of ice.<sup>143</sup> They charted a large stretch of coastline, prepared a geological and topographical map. In addition, they also estimated the height of nearby mountains by means of two methods, trigonometric calculations and by using of a barometer. The collection of minerals to assist in determining the possibilities for mineralogical extractions was also a central part of

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<sup>140</sup> Hinrich (Henry) Rink and Robert Brown, *Danish Greenland, Its People and Its Products* (London, H. S. King, 1877), 39.

<sup>141</sup> Very little is known about Groth, except for the short biography in Kommissionen for Ledelsen af de geologiske og geografiske Undersøgelser i Grønland, *Oversigt over Meddelelser Om Grønland*, 90.

<sup>142</sup> Kommissionen for videnskabelige undersøgelser i Grønland, *Meddelelser Om Grønland*, 1879, 1:19.

<sup>143</sup> Translated from Danish “alle de Grene af den physiske Geographi” and “archeological Iagttagelser” Ibid., 1:20.

the expedition. Notably, the 1878 expedition brought home over 1000 plants in 120 varieties, including 27 varieties only from 'Jensens Nunatakker'.

A nunatak, or nunataq, is an ice-free peak in the ice sheet. The 1878 expedition succeeded in entering 70 km into the ice sheet, which was further than had been done before.<sup>144</sup> Here the expedition discovered and named the 'Jensens Nunatakker'. The nunataks were of particular interest for several reasons. They indicated what was under the ice sheet. Nunataks also made it possible to study the motion and behaviour of very large bodies of glacial ice. As the arrows in figure 25 illustrate, the ice moved around and against the nunataks. The pressure of the ice against the rock shaped the glacier and created terminal moraines, illustrated in figure 24. The processes that had shaped the landscape during the Ice Age could be observed from the vantage point of the nunataks. The dynamics of glacial movement was here of a different magnitude than where it had been studied in Europe.<sup>145</sup> Jensen also published his findings from the 1878 expedition in the journal *Geografisk Tidsskrift*. Where the publications in *Meddelelser om Grønland* had focused on the scientific results of the expedition, Jensen's article in *Geografisk Tidsskrift* also described their experiences of surveying, with particular emphasis on the dangers associated with penetrating the inland ice.<sup>146</sup> The article included several images drawn by Kornerup, including figure 26 which showed the parallel fractures in the ice sheet. In addition to illustrating the phenomenon of glacial

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<sup>144</sup> Ibid., 1:13.

<sup>145</sup> In the nineteenth century glacial motion was studied by figures such as James David Forbes, Louis Agassiz, John Tyndall, Thomas Henry Huxley, and Louis Rendu.

<sup>146</sup> Jensen, "Vandring Paa Den Grønlandske Indlandsis I Aaret 1878."

fractures, it also made it clear why crossing the interior of Greenland was so dangerous.

The expeditions in the second half of the 1870s were considered “a type of trial year for the examinations in the area of Greenland where the Danish colonies are placed”, and both *Meddelelser om Grønland* and *Geografisk Tidsskrift* urged the government to fund more expeditions. Denmark had a special obligation to carry out these expeditions.<sup>147</sup> It was research that would not be possible without governmental support and funding, even if “others in foreign countries have felt the absence of it, and, at least for the first part, complained that Denmark had not fulfilled their obligations in this area long ago”.<sup>148</sup> That Danish research in Greenland was so important for the international scientific community was a notion that permeated the pages of both journals. The expeditions in the 1870s had again shown that it was possible to carry out extensive surveying in the Arctic on a very tight budget. These were key reasons for why the Danish government committed to participating in the First IPY early on. However, there was another not insignificant factor behind these efforts. The Danish territories in Greenland did not include the entire country. Surveying to determine the nature of the country, which included what was under the ice sheet, was an important part of establishing imperial

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<sup>147</sup> Translated from the original Danish “en slags Prøveaar for Undersøgelserne i den Del af Grønland, hvori de danske Kolonier ligge”” Kommissionen for Ledelsen af de geologiske og geografiske Undersøgelser i Grønland, “Undersøgelserne I Aarene 1878-80 Paa Vestkysten Af Grönland, Indberetning Til Indenrigsministeriet,” *Geografisk Tidsskrift* 5 (January 1, 1881): 60.

<sup>148</sup> Translated from the original Danish: “man I Udlandet har følt Savnet deraf, og, I det mindste for det førstes vedkommende, klaget over, at Danmark ikke for længe siden havde opfyldt den der I denne Retning paahvilende Forpligtelse.” Ibid.

presence in the territory. That all of Greenland should be part of the Danish Kingdom was not a given, and some areas are still contested today. For example, Hans Island, named after Hans Hendrik, is claimed by both Denmark and Canada. The significant increase of Danish expeditions in Greenland thereby shows the interconnectedness and tensions between increased scientific internationalisation on the one hand, and nation building and imperial ambitions on the other.

#### **4: A reluctant British and Canadian contribution to the IPY**

Why we have refrained from joining the other nations, it is needless discussing. Doubtless, the Admiralty have taken the best advice before declining to co-operate with them. Whatever their reasons are, we must remember that, though this work which they are about to undertake may be admirable from a theoretical point of view, it is not exploration. *C'est magnifique, mais ce n'est pas guerre* (sic), and in the Polar Basin war of the old sort is what the public expect for their money.<sup>149</sup>

- Anon, *The Standard*, 14 April 1882

Nowhere is the tension between nation building and internationalization in the Arctic more evident than surrounding the First IPY. The IPY brought together researchers from multiple countries, with the aim of undertaking systematic and

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<sup>149</sup> Anon, "The Arctic Campaign," *The Standard*, April 14, 1882, Gale NewsVault.

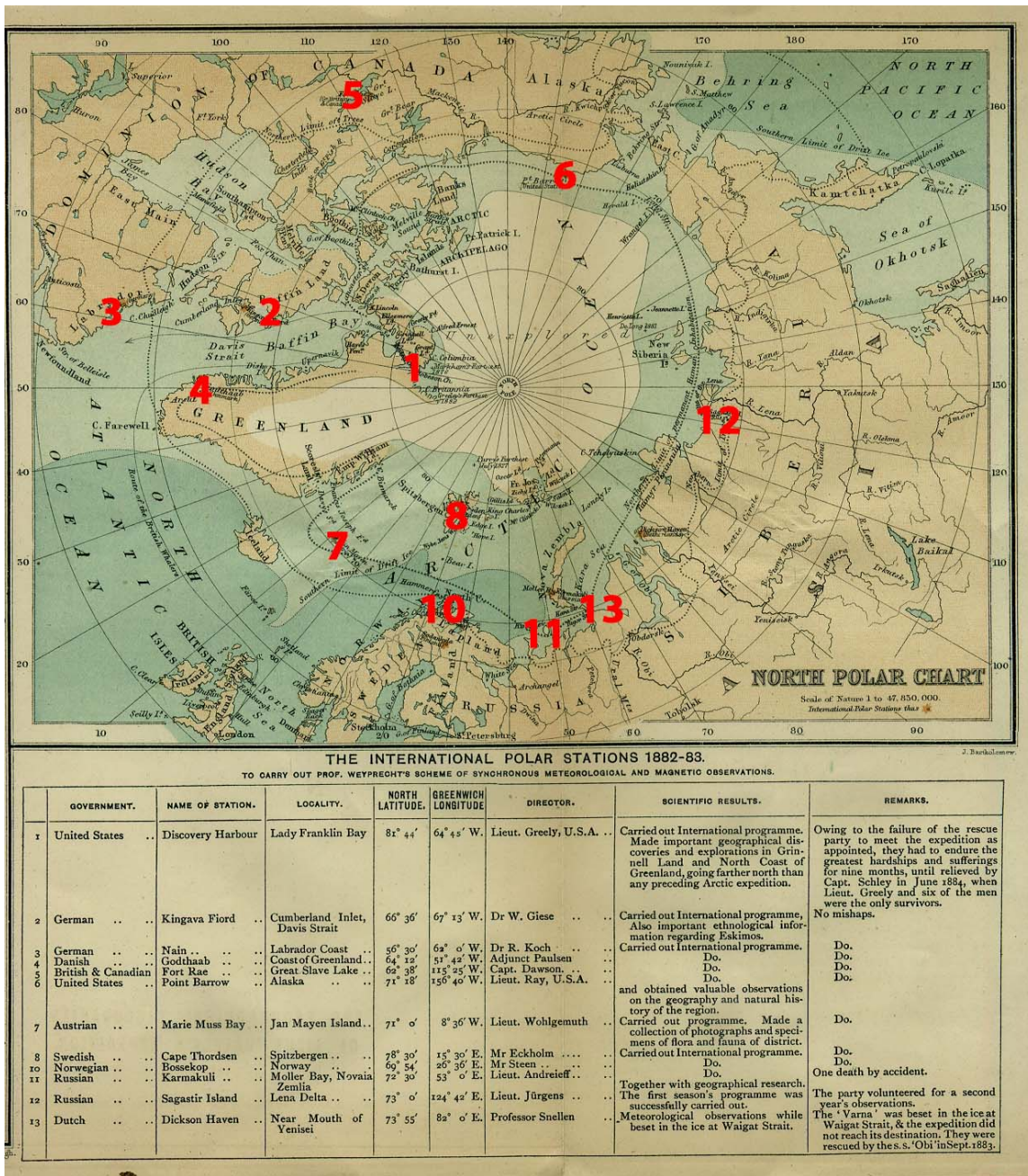


Figure 27 IPY Stations. Map held by the National Oceanic and Atmospheric Administration Central Library Data Imaging Project. My edits, please note the stations are numbered 1-13 with no number nine, totalling twelve stations.<sup>150</sup>

<sup>150</sup> "The International Polar Stations 1882-83," n.d., [http://www.lib.utexas.edu/maps/historical/north\\_pole\\_1885.jpg](http://www.lib.utexas.edu/maps/historical/north_pole_1885.jpg), National Oceanic and Atmospheric Administration Central Library Data Imaging Project.



coordinated scientific experiments and observations in the Arctic and Antarctic. Britain and Canada alone among the old powers in the Arctic did not pledge their commitment to the venture and sent no representatives to the first International Polar Conferences. As was noted in the British daily newspaper, *The Standard*, the type of Arctic expedition proposed for the IPY was distinctly different to those previously organized by the British Navy. Linking wars to exploration in the Arctic was very apropos for the British Arctic experience. Nothing quite said heroic Arctic exploration as venturing into the unknown and dying of scurvy along the way. By contrast, the IPY consisted of Polar Stations with predetermined (and already known) locations where researchers could focus on scientific objectives rather than the search for more lofty subjects such the North West Passage and the Open Polar Sea. At the last minute, Britain decided to contribute with a Polar Station at Fort Rae by the Great Slave Lake in the Canadian Arctic.<sup>151</sup> The Canadian government contributed a small amount of money to the project. This section examines the British-Canadian contribution to the IPY, with a focus on how this change of exploratory style influenced the reasons for and against the mission, and how this in turn shaped the presentation of the results. This further opens up a discussion about changing understandings of the field in Arctic research.

The British-Canadian contribution to the IPY was organized by Britain, and Canada contributed \$4000 to the project.<sup>152</sup> The Polar Station at Fort Rae was directed by a Committee of the Royal Society of London, which consisted of John

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<sup>151</sup> The Great Slave Lake is on the border between the sub-Arctic and the Arctic

<sup>152</sup> Barr and Lüdecke, *The History of the International Polar Years (IPYs)*, 61.

Rae, George Richards (1820-1896), Robert Henry Scott (1833-1916), and George Stokes (1819-1903).<sup>153</sup> The expedition party consisted of Captain Henry P. Dawson of the Royal Artillery, C. S. Wedenby of the Royal Artillery, sergeant instructor J. English, and sergeant F. W. Cooksley, both of the Royal Horse Artillery.<sup>154</sup> In contrast to the previous Arctic expeditions organized by the British government, which had primarily consisted of men from the Royal Navy, the four men chosen to carry out the experiments and observations at Fort Rae were from the Royal Artillery. This was due to a central difference between the Fort Rae Polar Station for the IPY, and the previous British expeditions to the Arctic. This was a land-based expedition that did not involve extensive geographical exploration.<sup>155</sup> The primary goals were scientific, whereas previous Arctic expeditions had as their main objective to reach geographical points of interest, such as the North West Passage or the North Pole. For the purpose of this section it is useful to contrast the permanent Polar Stations under the IPY with the older type of Arctic exploration that had geographical surveying as its main focus. With a few exceptions, most of the expeditions under the IPY went according to plan. However, even in this more controlled field, disaster still struck. One of the American expeditions was stranded. The relief ship failed to arrive and 19 out of 25 members starved to death. The Dutch expedition lost its ship and was stranded for 10 months. The Danish expedition also experienced problems

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<sup>153</sup> Anon, "The Royal Society," *Nature* 27 (December 14, 1882): 162.

<sup>154</sup> No vital dates

<sup>155</sup> While geographical discovery was put to the side during the IPY, important discoveries were still made, see: William Barr, "Geographical Aspects of the First International Polar Year, 1882-1883," *Annals of the Association of American Geographers* 73, no. 4 (December 1, 1983): 463-84.

and was stranded for an extended period.<sup>156</sup> The British-Canadian contribution to the IPY was, however, largely uneventful.

The scientific objectives of the IPY were divided into two groups, voluntary and obligatory. The two key people who initiated the IPY were the Austrian explorer, Karl Weyprecht (1838-1881), and the German explorer, Georg von Neumayer (1826-1909). Both Neumayer and Weyprecht believed that scientific activity in the Arctic would be advanced if measurements and observations were carried out simultaneously at different geographical points.<sup>157</sup> In Weyprecht's view, fieldwork in the Arctic should be systematic and co-operative, as opposed to the past exploratory Arctic expeditions. Weyprecht fully explained his ideas in a presentation entitled, 'Fundamental Principles of Scientific Arctic Investigation',<sup>158</sup> delivered to the Academy of Sciences in Vienna in January 1875. The presentation was repeated at the 48th meeting of German Naturalists and Physicians at Graz on 18 September 1875. It was published as a pamphlet, and translated into multiple

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<sup>156</sup> Barr and Lüdecke, *The History of the International Polar Years (IPYs)*, 3; Karen M. Morin, *Civic Discipline: Geography in America, 1860-1890* (Routledge, 2016), 141; R.G. Barry, "Climate: Research Programs," in *Encyclopedia of the Arctic*, ed. Mark Nuttall (New York: Routledge, 2012), 379.

<sup>157</sup> Georg Neumayer, "Die Geographische Probleme Innerhalb Der Polarzonen in Ihrem Inneren Zusammenhange Beleuchtet [Intrinsic Aspects of Geographical Problems within Polar Regions]," *Hydrographische Mittheilungen* 2, no. 5-7 (1874): 51-53; Barr and Lüdecke, *The History of the International Polar Years (IPYs)*, 19; Karl Weyprecht, "Fundamental Principles of Scientific Arctic Investigation" (Academy of Science, Vienna, 1875); Karl Weyprecht, "Fundamental Principles of Arctic Investigation" (Association of the German Naturalists and Physicians, Graz, September 18, 1875); Hermann F. Koerbel, "Karl Weyprecht," in *Encyclopedia of the Arctic*, ed. Mark Nuttall (New York: Routledge, 2012), 2172-73.

<sup>158</sup> 'Programme des travaux d'une expedition polaire internationale'

languages.<sup>159</sup> For example, the Danish newspaper, *Jyllandsposten*, published a long report on Weyprecht's presentation, which included a translation of Weyprecht's six principles for Arctic research.<sup>160</sup> Historian F.W.G. Baker has provided a more precise English translation of Weyprecht's six principles, which were as follows:

1. Arctic exploration is of the greatest importance for a knowledge of the laws of nature.
2. Geographical discovery carried out in these regions has only a serious value inasmuch as it prepares the way for scientific exploration as such.
3. Detailed Arctic topography is of secondary importance.
4. For science in the Geographical Pole does not have a greater value than any other point situated in high latitudes.
5. If one ignores the latitude the greater the intensity of the phenomena to be studied the more favourable the place for an observational station

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<sup>159</sup> Cronenwett, "Publishing Arctic Science in the Nineteenth Century," 37.

<sup>160</sup> 1. *Den arktiske forskning er af den højeste Vigtighed for Kjendskabet til Naturlovene* 2. *De geografiske Opdagelser ere derved blot af relativt Værd* 3. *Den arktiske Detailtopografi er en Bisag* 4. *Den geografiske Pol er blot af den Betydning, som enhver højere Bredegrad har.* 5. *Observationstationer have blot Værd der, hvor intensive Fænomener optræde.* 6. *Stationer, som ligge alene, have blot relativt Værd.* Anon, "Nordpolsekspeditionerne," *Jyllandsposten*, October 19, 1875, 2, Statsbiblioteket, Aarhus Universitet.

6. Isolated series of observations have only a relative value.<sup>161</sup>

For the venture to be successful, it was imperative that all participants follow the same procedures, and undertake the same observations in areas of meteorology, magnetism, aurora, and astronomy. In other words, that all participants adhered to a common Arctic science. Those were the basic requirements. In addition, it was voluntary to further make observations relating to all other aspects of the Arctic, including areas such as hydrography, atmospheric electricity, the nature and behaviour of ice, zoology, botany, and geology.<sup>162</sup> The Fort Rae station only contributed the absolute minimum, and, as Trevor Levere has noted, “although they made incidental geological and zoological observations, their volume of observations was the shortest of any of the expeditions of the IPY.”<sup>163</sup>

The British and Canadian attitude to the IPY was lukewarm, as was the reception of Weyprecht’s vision for Arctic science in the periodical press. Weyprecht’s criticism of the scientific achievements of past Arctic missions did not sit well with the British. *The Geographical Magazine* strongly scolded Weyprecht for including the Franklin search missions in his estimation of the scientific achievements of past British Arctic explorations, because these were not actual explorations. Because these were search missions, the article argued, their results

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<sup>161</sup> Translation of the six principles taken from: Baker, “The First International Polar Year, 1882–83,” 277; Weyprecht, “Fundamental Principles of Scientific Arctic Investigation”; Weyprecht, “Fundamental Principles of Arctic Investigation.”

<sup>162</sup> Anon, “The Arctic Campaign Of 1882-3,” *The Times*, January 19, 1883, 3, Gale NewsVault.

<sup>163</sup> Levere, *Science and the Canadian Arctic*, 327.

should be excluded in an estimation of the scientific value of past British Arctic explorations. It further countered Weyprecht's notion that geographical discovery should not be the primary focus:

Lieutenant Weyprecht complains of the prominence that has been given to geographical discovery in Arctic work, and that the conquest of physical difficulties has usurped the place of real scientific labour. As regards English scientific Arctic expeditions this complaint is groundless. Geographical discovery properly takes the first place, because it is by far the most important, and the conquest of physical difficulties is the means by which it is achieved.<sup>164</sup>

The criticism from *The Geographical Magazine* in the above quoted passage nicely illustrates the three interconnected reasons for the hesitant British response to the IPY. Firstly, this was not a heroic exploratory Arctic expedition as indicated by the lack of 'conquest of physical difficulties' associated with the Polar Stations. Secondly, as knowing was owning, and geographical discovery was a key way of stamping imperial authority in the Arctic, geography should be the primary objective. Finally, the criticism of past Arctic explorations could be interpreted as a criticism of the British ventures in the Arctic. As the proposed IPY was founded on the idea that international collaboration would achieve more than had been possible before, the

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<sup>164</sup> Anon, "Log Book," *The Geographical Magazine*, April 1, 1876, 104, Gale NewsVault.

implication was again that other nations were equal to, or better than, the British in the Arctic.

These differences were discussed in the British periodical press leading up to the IPY. For example, an article in *The Times* remarked how Weyprecht was “convinced that the days of monster Arctic expeditions were past”.<sup>165</sup> The article lamented the fact that the British government was reluctant to participate in the IPY, and noted that “Weyprecht’s scheme met with distinct approval everywhere, except among a few old-fashioned Arctic worthies in our own country, who were all for the fine old English method of expensive blundering.”<sup>166</sup> This viewpoint is particularly interesting when comparing it with the negative tone taken by the editor of *The Times* during the discussions to send out an expedition to the North Pole under Nares, as discussed in section one. The difference between the sentiment expressed then and in 1882 surely relates to the complete change of style in the explorations proposed under the IPY. As was similarly noted in an article in *The Standard*, the scheme for the IPY would to “the impatient adventurers of the old school ... sound sadly Academical, and tame to an unendurable degree”. In contrast with the article in *The Times*, it was understood from *The Standard* that such a venture with a focus on “pure science” was not “the work of the Admiralty” and would, perhaps regrettably, “do little to advance the naval renown of their respective countries”.<sup>167</sup> This specialized focus broke with the long tradition of

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<sup>165</sup> Anon, “The Circumpolar Stations,” *The Times*, August 16, 1883, 7, Gale NewsVault.

<sup>166</sup> Ibid.

<sup>167</sup> Anon, “The Arctic Campaign,” 6.

British exploratory Arctic expeditions. When Ross in 1818 sailed in search of the Northwest Passage, his orders were first and foremost geographical, and secondly to “contribute to the advancement of science and natural knowledge.”<sup>168</sup> The focus was broad and general, and, as shown throughout this thesis, both the narratives and specialist scientific papers produced from the expeditions were utilized as evidentiary sources by researchers from many disciplines. Personal travel narratives were important scientific documents, and often included large supplements with detailed records of observations. Weyprecht’s vision for the IPY was based on the idea that deliberate and systematic observations could yield a more useful scientific output than what had been achieved from the exploratory Arctic expeditions. This was no longer opportunistic science dependent on the luck – or misfortune, as being frozen in for extended periods freed up time to undertake scientific observation – of the expeditions. It brought the scientific laboratory to the field in a much more institutionalized way than before. There is an interesting parallel between the move from exploratory Arctic expeditions and the Polar Stations, and the historical research on the relationship between the laboratory and the field. Robert Kohler has argued that the laboratory revolution between the 1840s and 1870s created the lab-field border.<sup>169</sup> As there was a border, although intangible, between the laboratory and the field, there was also a marked division

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<sup>168</sup> Ross, *A Voyage of Discovery, Made under the Orders of the Admiralty, in His Majesty’s Ships Isabella and Alexander, for the Purpose of Exploring Baffin’s Bay, and Inquiring into the Probability of a North-West Passage*, 9.

<sup>169</sup> Kohler, *Landscapes and Labscapes*, 3. See also Kuklick and Kohler, “Introduction.”



between scientific practice in the Polar Stations and in the exploratory Arctic expeditions.

The Polar Stations were also in the field, yet this was not the same type of field as the exploratory Arctic expeditions. The field is not a singular entity; or rather there are multiple types of fields constructed by those involved, be it supporters or critics. As David Livingstone has noted, “the field site is always politically negotiated.”<sup>170</sup> As Kohler further argued pertaining to the difference between the laboratory and the field, “The domains of laboratory and field are cultural domains first and foremost, where different languages, customs, material and moral economies, and ways of life prevail.”<sup>171</sup> The character of the field is therefore, to quote Livingstone, “deeply uncontrollable”.<sup>172</sup> When looking at Arctic exploration science in this period, and the way it was discussed in the British periodical press, it is clear that the modifications of the setting, methods, and objectives of Arctic science during the IPY also shifted the perceptions of what it meant to do fieldwork in the Arctic. The politics of fieldwork is reflected in the choice to send out men from the Royal Artillery instead of the Royal Navy. Even though the Royal Navy together with the HBC had dominated British and Canadian exploratory Arctic expeditions, the politics of the field-site meant that the stationary Fort Rae was not the venue of naval men.

The methods of Arctic science also changed with the new field-site. When science was the secondary priority after geographical discoveries, the scientific

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<sup>170</sup> Livingstone, *Putting Science in Its Place*, 47.

<sup>171</sup> Kohler, *Landscapes and Labscapes*, 5.

<sup>172</sup> Livingstone, *Putting Science in Its Place*, 47.

results were largely determined by the individual preferences and skills of the crew. Attempts at standardizing fieldwork in the Arctic during the IPY were not a completely new idea. As the previous chapters have shown, the official instructions for exploratory Arctic expeditions often included highly detailed instructions for the preferred observations and experiments in the Arctic. The learned societies, private naturalists, and scientific instrument makers lent their expensive instruments to the missions. Explorers dutifully recorded and compared their observations undertaken with instruments from different makers. Several of the officers also received additional scientific training prior to departing. Furthermore, as Debra Lindsay has shown, the HBC collaboration with the Smithsonian between the 1850s and 1870s also developed detailed instructions for collecting natural history specimens in an attempt to control fieldwork. Yet they could not regulate the field itself.<sup>173</sup> While the Arctic was still unpredictable, the sedentary nature of the Polar Stations afforded a higher level of control over the field-site.

The results from Fort Rae were published in several forms. Notably, Dawson published a brief preliminary report in the *Proceedings of the Royal Society of London*, communicated by George Stokes's 'Report on the Circumpolar Expedition to Fort Rae' (1883) and later in full as *Observations of the International Polar Expeditions, 1882-83, Fort Rae* (1886). These were issued by the Royal Society.<sup>174</sup> It

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<sup>173</sup> Debra J. Lindsay, *Science in the Subarctic: Trappers, Traders, and the Smithsonian Institution* (Washington: Smithsonian Institution Press, 1993).

<sup>174</sup> Henry P. Dawson, "Report on the Circumpolar Expedition to Fort Rae," *Proceedings of the Royal Society of London* 36, no. 228-231 (1883): 173-79; Henry P. Dawson, *Observations of the International Polar Expeditions, 1882-83: Fort Rae* (London: Eyre and Spottiswood for Trübner and Co., 1886).

is another significant difference between this Arctic expedition and those before it that seemingly none of the participants published personal narratives after their journey. Rather, Dawson's *Observations* contained only a brief introduction that outlined their experiences at Fort Rae. *Observations* provided a detailed record of the expedition's observations and experiments. The book was divided into two sections pertaining to the scientific fields linked to the observations. The section for 'Meteorological Observations' included: Atmospheric Pressure, Air Temperature, Vapour Tensions and Relative Humidity, Wind, Amount Form and Direction of Clouds also Hydrometeors, Aurora, Solar Radiation, Terrestrial Radiation, Exposed Thermometer on Ground, and Earth Temperatures. The section for 'Magnetical Observations' included: Remarks (a summary) Declination, Horizontal Intensity, Vertical Intensity, Term Day Observations, Term Hour Observations, Selected Undisturbed Days, Selected Disturbed Days, and Journal of Auroral Observations. The mandatory scientific observations of the IPY were meteorological and magnetical, and this had been the primary focus at Fort Rae.<sup>175</sup>

The instruments used at Fort Rae were all borrowed from the Kew Observatory, the Meteorological Office, and the Royal Geographical Society, as they did not have time to custom make or order new instruments. The majority of their food and other supplies were provided by the HBC in Winnipeg.<sup>176</sup> They departed from Liverpool on 11 May 1882 and reached Fort Rae on 30 August via Quebec,

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<sup>175</sup> For a detailed summary of the scientific results of the Fort Rae station, see Zhou, *The Histories of the International Polar Years and the Inception and Development of the International Geophysical Year*, 1:26–29.

<sup>176</sup> Dawson, *Observations of the International Polar Expeditions, 1882-83: Fort Rae*, vii–viii.

Winnipeg, and Carlton. It took them two months to travel from Carlton to Fort Rae.<sup>177</sup> This was the roughest part of the journey, and some of the scientific instruments were at one point submerged under water when they were hit by a gale. Despite the accident, “the performance of the magnetic instruments was satisfactory, with the exception of the balance magnetometer”.<sup>178</sup> Luckily the instruments were not damaged, and the majority of the provisions were also salvaged.<sup>179</sup> They began their meteorological observations the day after they arrived, on 31 August. Because Fort Rae was a preexisting establishment, they were able to convert a storage log hut into their Magnetic Observatory which was finished in mid-September.<sup>180</sup> Although they were stationary, they still encountered difficulties with the field-site. Wild animals visited the Station and disturbed the instruments. In an attempt to secure the site, particularly to keep out wolves, they decided to build a fence around their meteorological instruments during the winter.<sup>181</sup>

Because the expedition was so small, one person carried out both the meteorological and magnetic observations. This was possible due to the proximity of the log hut turned observatory. The expedition observed Aurora every night when the sky was clear. Observations of the Aurora were made according to Weyprecht’s systematic scheme. They recorded the distribution in both local and

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<sup>177</sup> *Ibid.*, ix.

<sup>178</sup> *Ibid.*, xi.

<sup>179</sup> *Ibid.*

<sup>180</sup> *Ibid.*

<sup>181</sup> *Ibid.*, xiii.

Göttingen mean time.<sup>182</sup> The form and brightness of the Aurora were evaluated according to a scale.<sup>183</sup> As Weyprecht had determined that “isolated series of observations have only a relative value” scales such as these were utilized to enable a more standardized recording of observed phenomena.<sup>184</sup> The brightness of the aurora was indicated on a scale from one to four. Interestingly it was also noted that on this scale five would be brighter than the Milky Way, and four, the actual maximum of the scale, would be bright enough to read by.<sup>185</sup> They also noted the colour of the aurora, viewed through the spectroscope.<sup>186</sup> The form was expressed by Roman figures corresponding to what it mostly resembled: Arch, Streamers, Striæ, Corona, Patches or undefined light, Dark segment, Polar light, and Sheaves. Also according to Weyprecht’s system, readings of the magnetic instruments followed a strict system. Three readings were done with the same instrument, one at two minutes before the hour, one at the hour, and one after the hour.<sup>187</sup> These and many other methodological choices and reflections were included in *Observations*, as were instances when they encountered difficulties. Like the travel narratives from Arctic explorations before them, including such details added to the

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<sup>182</sup> Zhou, *The Histories of the International Polar Years and the Inception and Development of the International Geophysical Year*, 1:26–27; Dawson, *Observations of the International Polar Expeditions, 1882-83: Fort Rae*, 125.

<sup>183</sup> Dawson, *Observations of the International Polar Expeditions, 1882-83: Fort Rae*, 108.

<sup>184</sup> Translation from: Baker, “The First International Polar Year, 1882–83,” 277; Weyprecht, “Fundamental Principles of Scientific Arctic Investigation”; Weyprecht, “Fundamental Principles of Arctic Investigation.”

<sup>185</sup> Dawson, *Observations of the International Polar Expeditions, 1882-83: Fort Rae*, 253.

<sup>186</sup> *Ibid.*

<sup>187</sup> *Ibid.*, 125, 326.

authority of the text. Perceived transparency and objectivity were central to establishing trust in their data.<sup>188</sup> This was especially important in an international cooperative effort such as this.

The IPY marked a transformative event in Arctic exploration, and it was significant for furthering the networks between the international community of researchers. Scientifically the IPY was largely a success. The coordinated international programme of observers carrying out systematized fieldwork in the Arctic generated, like Weyprecht and Neumayer had predicted, extensive scientific results. The results were published in multiple countries, and provided evidentiary resources for years to come. As the President of the Royal Meteorological Society, John Knox Laughton noted in 1884, “the complete year’s careful observations at such a station cannot but be exceedingly valuable.”<sup>189</sup> It should be noted as an extraordinary peculiarity and testament to just how different this expedition was, that the participants have not been the subjects of biographies and little is known about their lives. There was no drama to the expedition to Fort Rae, nothing to conquer, and there was nothing, or no one, to find. This was not a ‘heroic’ Arctic exploration and the four participants were not widely celebrated upon their return. While the British government had been reluctant to organize the Nares expedition to the North Pole exactly because of the cost in monetary terms and human lives,

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<sup>188</sup> For more on this theme see, Theodore M. Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton, N.J.: Princeton University Press, 1995); Graeme Gooday, *The Morals of Measurement: Accuracy, Irony, and Trust in Late Victorian Electrical Practice* (Cambridge: Cambridge University Press, 2004).

<sup>189</sup> John Knox Laughton, “An Address Delivered at the Annual General Meeting, January 16th, 1884,” *Quarterly Journal of the Royal Meteorological Society* 10, no. 50 (April 1, 1884): 82.

they also did not greet the opportunity of the IPY in enthusiastic terms. The IPY did not instantaneously establish and secure international cooperation. Both during the planning and after the event, nationalistic and imperial concerns influenced science in the Arctic. However, even the lukewarm participation of the British and Canadian government in the IPY showed what could be achieved when science and international collaboration, not geographical exploration and national concerns, were the main purpose for entering the icy North.

## **Conclusion**

The period leading up to the first IPY was characterized by an increase in international collaborations, as well as a shift in imperial authority in the Arctic. After the disappearance of the last Franklin expedition, and the many search missions that followed, there was very little state support for new British Arctic expeditions. While Britain experienced an Arctic fatigue, other nations such as Denmark and the US were increasing their presence in the Polar region. The expeditions organized by the British government had largely followed the same blueprint since 1818, but as the previous chapters have illustrated not all organizers were committed to the large two-vessel format. Such differences were pushed to the fore in the lead-up to the first IPY. International cooperation was the hallmark of the IPY. As John Ambrose Fleming (1849-1945) who was one of the organizers of the Second IPY in 1932-33 wrote about the first IPY in the *Geographical Review* in 1932, "The immeasurable enhancement in the worth of polar observations through this

coöperative endeavor has been amply demonstrated by the theoretical and practical applications of some twenty volumes of data obtained during that period.”<sup>190</sup> However, as this chapter has shown, international collaboration challenged perceptions of the identity of the Arctic explorer, the purpose and nature of Arctic exploration, and scientific practice in the Arctic.

One indication of the increase in internationalization of Arctic science is Hinrich Rink’s decision to publish Hans Hendrik’s memoir in English rather than Danish, because he believed it would reach a larger reading audience that way. The early volumes of *Meddelelser om Grønland*, which was co-founded by Rink, show a similar trend. *Meddelelser om Grønland* were published in Danish, but included French abstracts as a way to make the knowledge available to a non-Danish reading audience. Later volumes were translated into English. The publication of *Meddelelser om Grønland* further reflected the political ideology that the loss of territories could be compensated through an intensification of industrial and scientific efforts. There are key parallels between developments in Denmark and Canada at this point. As Theodore Binnema has showed, there was a fruitful cooperation between the HBC and the Smithsonian in the US between 1855 and 1865. It was an extension of the HBC’s scientific network, and the Smithsonian was prioritized over scientists in Britain in part because of how they rewarded the collectors.<sup>191</sup> The increased American interest in the Arctic is evident in the purchase of Alaska, as well as in the support for Arctic ventures. Three of the four

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<sup>190</sup> J. A. Fleming, “The Proposed Second International Polar Year, 1932-1933,” *Geographical Review* 22, no. 1 (1932): 131.

<sup>191</sup> Binnema, *Enlightened Zeal*.



expeditions in search of the North Pole that ventured through Smith Sound were American. The fourth was British, and the George Nares expedition is an example of how significant national pride was in the organization of British Arctic explorations.

While the prospect of economic gains through the extraction of resources was a key factor behind the intensification of Danish explorations of Greenland, and the publication of scientific knowledge about the region, Hendrik's memoir also reveals another shift. It shows how ideas about who was an authoritative observer of Arctic phenomena were changing. Hendrik was a cultural intermediary, and there was a tension in the reviews of his narrative between accepting him as an authoritative Arctic writer while framing him as a 'child of nature'. As an Indigenous Greenlander, Hendrik's authority on matters pertaining to Arctic explorations did not fit comfortably with the established perceptions of the Arctic explorer. As scientific practice in the Arctic became an increasingly global pursuit, the issue of the Arctic explorer's identity was increasingly redefined. This was particularly clear with the British-Canadian participation in the IPY, when many British commentators noted the shift in the style of exploration, and how this was linked to the identity of the explorer. Prior to the IPY, Arctic expeditions had usually been exploratory missions, in particular in the British contexts. This was a big difference to the IPY, which was centred on Polar Stations. The largely sedentary nature of the Polar Station, and the lack of focus on geographical discovery, had important methodological implications for scientific practice in the Arctic. The Polar Stations provided a more stable field-site for scientific pursuits, and, together with the international commitment to following a set framework for what the IPY should

accomplish scientifically, had a profound impact on Arctic science. While exploratory missions continued to play an important part of Arctic ventures, the IPY demonstrated what could be accomplished through deliberate international cooperation with a predetermined methodological framework.

## Conclusion

Franklin's ships are an important part of Canadian history given that his expeditions, which took place nearly 200 years ago, laid the foundations of Canada's Arctic sovereignty.<sup>1</sup>

- Stephen Harper, September 9 2014

Ownership of the Arctic is still a hot subject. Recently the Russian ambassador to Denmark Mikhail Vanin caused an international crisis when he warned the Danish government against participating in the North Atlantic Treaty Alliance's (NATO) missile shield. Danish participation in the US led project, Vanin stated, would make "Danish military ships a goal for Russian nuclear missiles."<sup>2</sup> The threat was reminiscent of the Cold War when the US, in agreement with Denmark, established the Thule Air Base in Greenland. The base continues to be an important and highly controversial military station, in part because it was designed to track hostile nuclear missiles, and later because it serves as a site for NATO's anti-missile shield. Such controversies are likely to intensify, as the increase of global temperatures

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<sup>1</sup> Stephen Harper, "Franklin Ship Discovery: Stephen Harper's Full Statement," *CBC News*, September 9, 2014, online edition, <http://www.cbc.ca/m/touch/politics/story/1.2760566>.

<sup>2</sup> Translated from "danske krigsskibe bliver mål for russiske atommissiler", Lars From, "Ambassadør Advarer: Missilskjold Vil Koste Dyrt Og Give Mindre Sikkerhed," *Jyllands-Posten*, March 20, 2015, <http://www.jyllands-posten.dk/protected/premium/indland/ECE7573164/Ambasad%C3%B8r-advarer-Missilskjold-vil-koste-dyrt-og-give-mindre-sikkerhed/>.

opens up previously frozen areas of the Arctic. International law currently considers the Northwest Passage international waters. As the reduction in polar ice turns the Northwest Passage into a viable trading route, and a lucrative fishing area, the legal status has become a key concern, with nations such as Canada and Russia claiming it as theirs. As the statement by the Canadian Prime Minister, Stephen Harper, upon the discovery of Franklin's wrecked ship, *HMS Erebus*, in 2014 illustrates, historical presence in the Arctic through exploration still forms a central part of such arguments today. In the present, as in the nineteenth century, knowing is owning.

Harper's assertion that Franklin's expedition was the beginning of Canadian sovereignty in the Arctic – however flawed – shows the long-lasting influence of nineteenth-century Arctic explorations in shaping the geopolitical landscape. As this thesis has shown, travel narratives functioned as evidentiary resources for many scientific disciplines, as well as proof of imperial presence and possession. By publishing accounts from exploratory expeditions, governments, trading companies, and individuals sought to establish their authority in the Arctic. But authority extended beyond ownership to the physical landscape. As we see throughout this thesis, travel narratives were not simple accounts of voyages. It was never a given that they were accepted as a true account of the Arctic. Of course, veracity was linked to the author, but the surrounding circumstances of the expedition, and the textual strategies employed in the narrative, were equally significant in the construction of truthfulness. This process was never stable, and differed at points in time, as well as in place. Although many historians have examined Arctic explorations, in particular those associated with John Franklin, there is still much to

be gained by studying the scientific practices of Arctic explorers, and their repertoires for establishing knowledge-claims in their narratives. Namely, it sheds new light on the function of travel narratives as scientific documents, imperial ambitions and international cooperation in the Arctic, as well as the formation of field-based science in the nineteenth century. In this thesis I touched upon many themes, but four overarching and interlinked ones appear throughout my examination of Arctic expeditions. In what follows, I will draw on the significance of these themes for my thesis, and for the larger literature on nineteenth-century science, and travel writing.

### **Travel narratives**

The first theme is the role of travel narratives in shaping knowledge about the Arctic. Travel narratives were captivating accounts of heroism in the face of danger in unknown northern regions. They were also scientific documents that provided detailed accounts of the results of the experiments and measurements undertaken in a wide range of scientific subjects throughout the expedition. Such multiple functions of travel narratives created unique challenges for the authors in establishing and maintaining an authoritative narrative persona. For example, in chapter one, I showed how John Ross's narrative from his 1818 expedition catapulted him into a long and wide-ranging controversy over the veracity of his narrative. The problem with Ross' narrative was not just the non-existence of the Croker Mountains, but also the allegations of plagiarism levelled against him by

Edward Sabine after its publication. Travel narratives were not simply the product of one person (e.g. the named author), but drew on the experiences and knowledge of the entire crew. Ross' use of an active present-tense narrative voice emphasized his contributions and direct observations. But as a type of virtual witnessing – to borrow the term from Simon Schaffer and Steven Shapin – it was dependent on the perception of Ross as a trustworthy observer of Arctic phenomena.<sup>3</sup> Sabine's reaction shows the importance of travel narratives as scientific documents, and sources of scientific controversies. It mattered greatly that Ross did not acknowledge Sabine, when discussing his scientific discoveries during the expedition. As I further show in chapter two, Ross was still unable to effectively use travel narratives to his advantage after his second expedition to the Arctic.

Recently historians have drawn attention to the significance of travel narratives in shaping perceptions about the Arctic. For example, Innes Keighren, Charles Withers and Bill Bell have shown in *Travels into Print* (2015) how exploratory narratives were produced.<sup>4</sup> They reveal how publishers, in particular the John Murray publishing house, shaped narratives, while creating public interest in the books. Similarly, Janice Cavell examined in *Tracing the Connected Narrative* (2008), how travel accounts in combination with the periodical press shaped understandings of the Arctic, and Arctic explorers in the nineteenth century.<sup>5</sup> Whilst it is important to recognize the significant role of print culture in shaping travel narratives, studies such as these tend to downplay the science within. Conversely, in

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<sup>3</sup> Shapin and Schaffer, *Leviathan and the Air-Pump*.

<sup>4</sup> Keighren, Withers, and Bell, *Travels Into Print*.

<sup>5</sup> Cavell, *Tracing the Connected Narrative*.

*Science and the Canadian Arctic* (1993), Trevor Levere draws on many important sources, including travel narratives, and papers published in specialized scientific journals, to trace the science produced in the Arctic.<sup>6</sup> Material culture from expeditions, discussions in the periodical press, and specialized journals were important aspects of the circulation of knowledge about the expeditions on their return. Rather than tracing how narratives were a source for scientific practitioners in the metropole, though, I emphasize what these documents tell us about the production of science in the field.

Throughout this thesis, I have been preoccupied with the connections between imperialism, trade, science, and exploration in Arctic narratives. In chapter three, I show how John Richardson used his expedition in search of John Franklin as an opportunity to undertake substantial scientific experiments and observations. The primary goal of the search mission was to find Franklin, and the official instructions to the expedition did not include scientific objectives. Yet, as Richardson's narrative from the expedition shows, this was a central preoccupation for him during his year in the Arctic, and it fed into wider discussions about the legitimacy of the HBC monopoly. Who should govern British North America, and which areas and why, were central but largely implicit themes in Richardson's narrative, and it provided evidentiary material as to where it was possible to settle in the Arctic. Such concerns about tracing natural resources for imperial purposes are also evident in chapter four, where I show how the publication of travel accounts in *Meddelelser om Grønland* served to support Danish imperialism in

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<sup>6</sup> Levere, *Science and the Canadian Arctic*.

Greenland. Cataloguing the natural resources in the Arctic was intimately linked both to territorial ambitions and financial concerns, and this is strongly reflected in Richardson's work, and *Meddelelser om Grønland*. By asking more closely how travel narratives were a type of scientific document, I move away from issues about how the science was used in the metropole. When I look at the reception of the narratives, I do so with an eye to that central question: how did scientific practice in the Arctic change throughout the nineteenth century in Denmark, Canada, and Britain, and how is this reflected in the travel narratives?

### **The explorer**

The second theme in this thesis is the identity of the explorer. Knowledge of the Arctic, and scientific practices in the Arctic, were intertwined with understandings of what it meant to be an Arctic explorer. The Arctic explorers explored, of course, but they also textually constructed themselves within the context of past expeditions, their discoveries and achievements, the environment, the organizing bodies, and their encounters with the Indigenous peoples. Particularly in Britain, Arctic explorers were, with key exceptions, perceived as national heroes. The heroic Arctic explorer was a gentleman who overcame danger and adversity, to command nature at his will, and narratives were testimonies of his adventures and prowess. As I show in chapter three with John Rae, challenges to the concept of the heroic Arctic explorer were met with resistance in Britain. This was not the case in Denmark, as I show with Carl Peterson's narrative, which is also



discussed in chapter three. In the Danish context, the idea that John Franklin's men had resorted to cannibalism was more of a shocking and entertaining fact, than a challenge to feelings of national identity.

Variations of who the Arctic explorers were, and how they were represented extended beyond the issue of heroism. Janet Browne has shown that the social circumstances and the identity of the traveller were central in determining the nature of the expeditions.<sup>7</sup> Furthermore, in *Nature and the Godly Empire* (2005) Sujit Sivasundaram has shown the significance of missionary science in imperial expansion in the Pacific.<sup>8</sup> Sivasundaram argues that missionary activity and scientific practice were not distinct ideologies, but rather reinforced by one another. While missionaries sometimes collected specimens, they were usually not employed to do so but undertook scientific studies as part of their religious mission. Drawing on this, I show in chapter two how the account by the anonymous missionary wife adds a further dimension to the question of the identity of the Arctic explorer, as I engage with the tensions between travel writing and gender stereotypical narrative formats. The anonymous missionary wife's account constructed an Arctic that did not fit comfortably with the rhetoric of the male heroic Arctic explorer. Her narrative voice has strong parallels to the maternal tradition in Britain, with the exception that her account was not written for children and women. Rather, it was, as the other travel narratives examined in this thesis, intended for a broad reading audience. While she did not establish a feminine version of the heroic Arctic

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<sup>7</sup> Browne, "Biogeography and Empire."

<sup>8</sup> Sivasundaram, *Nature and the Godly Empire: Science and Evangelical Mission in the Pacific, 1795-1850*.

explorer per se, her account drew on other rhetorical strategies such as direct observation for establishing an authoritative narrative format. Her narrative, as was also discussed with Funch in chapter two, shows the tensions between spiritual expansionism, trade, and science in the Arctic, in writing trustworthy accounts.

Another type of explorers that I examine in this thesis, are those who were private entrepreneurs without independent funds. Such explorers responded to a patron, rather than a governmental body. In addition, I draw upon studies such as Ted Binnema's *Enlightened Zeal* (2014), which shows the significance of the HBC for the production of scientific knowledge in the Arctic, and Julie Cruikshank who in *Do Glaciers Listen* (2010) shows how perceptions of natural phenomena in North America differed significantly between European explorers and Indigenous peoples.<sup>9</sup> Building on these studies, I show the significance of two additional types of explorers, those that were associated with trading companies, and Indigenous informants. Hans Hendrik's narrative, which I examine in chapter four, is known as the first published Inuit account of the Arctic, and it challenged the perceptions of the identity of the authoritative Arctic explorer. I show that the way Hinrich Rink presented the narrative and Hendrik's experience as very valuable, complicated the status of Indigenous testimony, especially when compared to how John Rae was chastised for trusting the knowledge of Indigenous informants. In this way, I illustrate how multifaceted the Arctic explorer was in the nineteenth century, and the varied challenges to the construction of an authoritative scientific persona these

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<sup>9</sup> Binnema, *Enlightened Zeal*; Cruikshank, *Do Glaciers Listen?*

explorers faced. Perceptions of the Arctic explorer were unstable through time and space, which is particularly evident in an international comparison.

### **Imperialism**

The third theme that emerges in this thesis is the relationship between imperialism and science. Who owned the Arctic and its resources, was a key concern and motivating factor behind many Arctic explorations. I show throughout the four chapters that knowledge about the Arctic was a central part of such arguments. Geographical surveying was of particular importance. It is problematic to claim ownership to a land, or passage, that is represented by a blank space on a map. Tracing the physical landscape was a key part of claiming imperial authority to a region. Of equal importance were the sciences that assisted in cataloguing the natural resources in the region, as well as ethnology. Such scientific practices directly supported imperial control. Yet, the linkages between imperialism and science could also be more subtle. As Ted Binnema has shown, the HBC supported a wide range of scientific practices in the Arctic as a way to better their image.<sup>10</sup> This is a key point. I show throughout this thesis how the scientific practices of Arctic explorers played an important part when both the explorer and the organizing bodies attempted to present their expeditions as civil and worthwhile, and cement their ownership of the region. This ownership continues to be renegotiated and contested in the present.

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<sup>10</sup> Binnema, *Enlightened Zeal*.

When read within the context of imperial expansion, Arctic travel narratives reveal a wide range of geopolitical issues. As shown by scholars such as Jen Hill in *White Horizon* (2008), Robert David in *The Arctic in the British Imagination* (2000), and Janice Cavell in *Tracing the Connected Narrative* (2008), travel narratives reflected and contributed to British imperial discourses. In this thesis, I combined such perspectives from literary studies of the Arctic, with scholarship from the history of science and medicine, as well as broader discussions on the relationship between the metropole and the periphery. In particular, I draw on Daniel Headrick's *Power over Peoples* (2009), which examines the relationship between technology, imperialism, and the environmental context, and Jane Burbank and Frederick Cooper's study *Empires in World History* (2011), which shows the unifying aspects of the different means by which imperial authority has been legitimized and practiced, by what they term the 'repertoires of power'.<sup>11</sup> As such, I show that while there were key similarities between the Arctic explorations organized in the three national contexts, there were also many differences. For example, in chapter one, I show how the marked difference in the levels of available funds for exploratory missions in Denmark and Britain, shaped the organization of the Arctic expeditions.

Throughout the nineteenth century there was a close relationship between financial ambitions and imperial expansionism. As I show throughout the four chapters, the prospect of financial gains through the extraction of resources was a key factor behind explorations of Greenland and the North American Arctic. For example, I show in chapter four how the increase in Danish expeditions to

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<sup>11</sup> Headrick, *Power over Peoples*; Burbank and Cooper, *Empires in World History*.

Greenland in the 1870s and the publication of *Meddelelser om Grønland* was influenced by a political ideology that saw the intensification of industrial and scientific efforts as a way to advance the Danish economy. But who owned the Arctic and its resources was also a key point of conflict. I illustrate in chapter one how determining the fate of the lost Norse tribe, during William August Graah's expedition to the East coast of Greenland, was part of the ambition to establish Danish imperial authority in the region. The governing of British North America was also contested, and the validity of the HBC monopoly was questioned at several points. For example, the expedition led by Thomas Simpson and Peter Warren Dease, which I examine in chapter two, was shaped by the desire of the HBC Governor-in-Chief, George Simpson, to further the social and cultural standing of the HBC as a way of fostering support for the trade monopoly.

What emerges in the four chapters is how imperial support for science was never straightforward. In particular, I show that the relationship between the metropole and the periphery was complicated by many factors, including the radical uncertainty of the Arctic as a field-site. The official instructions to the early expeditions were broad, and requested that the explorers make scientific experiments and observations on a broad range of subjects, and collected anything of potential interest. This reflected a Humboldtian ethos of systematically studying the entirety of the globe, as well as the uncertainty of what could be achieved in the Arctic. Science in the Arctic was shaped by many factors, including the training and interests of the crew, the nature of the expedition and its resources, interactions with the Indigenous populations, and the environment. While the level of

uncertainty was higher in those expeditions that did not work together with the trading companies and the Indigenous populations, as is evident in the differences between the first and second Franklin expedition as examined in chapter two, the overarching feature of the expeditions examined in this thesis is the disunity of scientific practices in the Arctic. I show that the scientific practices, and the aims and ambitions of the metropole, were not simply transferred from the elite communities and organizing bodies to the periphery. Rather, the scientific practices of the Arctic explorer-fieldworker were continuously negotiated against the uncertainty of the Arctic field-site.

### **A transnational perspective**

The fourth theme in this thesis is how examining the Arctic through a transnational perspective sheds new light on the nature of Arctic science. National studies of scientific developments are important but they give a limited picture. Arctic science was inherently transnational in nature. Explorers from different nations read and commented upon each other's narratives, and expeditions often included assistants from other countries including Indigenous informants hired in the Arctic. Rather than providing a methodological framework, transnational history as described by scholars such as Christopher Bayly, Sven Beckert, Matthew Connelly, Isabel Hofmeyr, Wendy Kozol, and Patricia Seed, follows the movements of actors and

their ideas across boundaries.<sup>12</sup> Drawing on these considerations, I took as a starting point key narratives from Arctic expeditions to elucidate the construction of scientific knowledge in the Arctic. In doing so, the four chapters in this thesis reveal important similarities and differences in the way Arctic exploration and scientific knowledge in the Arctic were configured throughout the nineteenth century. What emerges in this thesis is a new perspective on Arctic explorations, which shows how knowledge in and about the Arctic was constructed through the movement of people and ideas.

There was no unified set of methods for practicing science in the Arctic prior to the First IPY. As this thesis further shows, there was also no unified Arctic space or type of Arctic explorer. Janice Cavell has argued that there was an Arctic metanarrative, a 'connected narrative' for the British reading audience that saw the British explorer as a national hero in the dangerous Arctic.<sup>13</sup> While I draw out the significance of the rhetorical strategy of portraying oneself as a heroic Arctic explorer in several of the expeditions that I examine in this thesis, I also show that there was no singular type of Arctic explorer or exploration. This is particularly evident in the comparison between the narrative choices and expedition make-up of expeditions organized by the Danish government, the British government, the KGH, and the HBC throughout this thesis. In other words, the Arctic explorer as a concept was without clear boundaries and represented a transnational identity. This was in part due to the differing availabilities of funding for Arctic explorations, as people

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<sup>12</sup> Bayly et al., "AHR Conversation."

<sup>13</sup> Cavell, *Tracing the Connected Narrative*.

such as Carl Petersen, who I examine in chapter four, were willing to look towards other nations for opportunities to participate in Arctic explorations. As I further show in chapter four, Hans Hendrik is an example of the complex identities of Arctic explorers and the international nature of Arctic explorations. Hendrik was an Indigenous Greenlandic explorer, who grew up in a Danish controlled area of Greenland under the religious influence of a German sect, and he participated in three American, and one British expedition, through the same area of the Arctic, Smith's Sound. While Hendrik's narrative was unique, his experience and presence as part of Arctic expeditions was not. Throughout the four chapters, I have touched upon the importance of Indigenous informants in the success of expeditions, but usually this group of explorers did not write their own narratives and had little voice in the travel narratives written by the European or Euro-American explorers.

The differences between transnational, global, and world history are fluid, and as varied as historians writing on the subjects. In this thesis, I adopted an open approach to transnational history, in combination with Jürgen Osterhammel's broad conceptualization of globalization that emphasizes worldwide interconnectedness.<sup>14</sup> In particular, in chapter four I combined Marc Rothenberg's discussion of the global, with Sujit Sivasundaram's argument that what makes a historical study global is not simply an examination of the practices of western naturalists in a global context, but rather the expansion of sources to include the perspectives of extra-European

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<sup>14</sup> Osterhammel and Petersson, *Globalization*.



peoples.<sup>15</sup> Drawing on these perspectives, I show how Hans Hendrik's narrative complicated perceptions of the trustworthy observer of Arctic phenomena, and the identities of Arctic explorers and Indigenous peoples in the Arctic. Furthermore, Hendrik's narrative illustrate how science in the Arctic and the Arctic as a contact zone was inherently transnational, or global in Sivasundaram's broad understanding of the term.<sup>16</sup> By comparing explorations from different national contexts, I show throughout this thesis that scientific practices and the Arctic space were constructed in a nexus of encounters, uncertainty, and imperial ambitions.

### **Further perspectives**

Taken together, the four overarching themes shed new light on scientific practices in the Arctic. By examining perceptions of the explorers' identity and the often conflicting interests of imperialism and internationalism from a transnational perspective, we can ask new questions about how science was practiced outside of the metropole. What comes to the fore is the instability of scientific practice. The extremeness of the Arctic, with its intense isolation, acute danger and harsh environment, highlights clearly how science is shaped by its location. As a field-site, the Arctic was inherently uncertain and the metropole had very little control over the types of results generated from these ventures. It shows the complexity and the

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<sup>15</sup> Rothenberg, "Making Science Global? Coordinated Enterprises in Nineteenth-Century Science"; Sivasundaram, "Sciences and the Global: On Methods, Questions, and Theory."

<sup>16</sup> Pratt, *Imperial Eyes*; Sivasundaram, "Sciences and the Global: On Methods, Questions, and Theory."

multi-directional nature of scientific knowledge, which is not limited to the Arctic, but applies to field-science across the globe more generally. How explorers and organizers attempted to control the level of uncertainty differed greatly, but can in all cases be gleaned from travel narratives. Taking seriously travel narratives as a type of scientific literary genre greatly broadens the type of questions we can ask about the knowledge that was produced during voyages of exploration and in imperial settlements. More so than not, Arctic expeditions were inherently global in nature. By comparing accounts from different national contexts we begin to see the ways ideas and people travelled in an open-ended network across boundaries of time and place. This provides historians with a new perspective on nineteenth-century scientific practices in the Arctic, as well as the construction of the scientific field-site in general.

In this thesis I traced the scientific practices of Arctic explorers as expressed in travel narratives from the end of the Napoleonic Wars to the First IPY. I show that scientific practices of Arctic explorers maintained a Humboldtian ethos up until the First IPY where there were efforts between multiple countries to join forces and systematize the scientific methods as a way of optimizing the scientific results from Arctic explorations. Why did science in the Arctic not professionalize the same way as other field sciences in the nineteenth century? As I show throughout the chapters, one explanation for this can be found in the cost of Arctic explorations and the uncertainty of the Arctic as a field-site. While the First IPY did not pass without serious accidents, the intention was to reduce the uncertainty by establishing permanent or semi-permanent stations in the Arctic so that fieldworkers could

focus on scientific subjects rather than geographical discovery. The transitions from the first expeditions after the Napoleonic Wars to the First IPY was therefore also associated with a move away from a focus on the discovery of the North Pole and the Northwest Passage. While the scientific aims of the First IPY were still broad and contributed to a wide range of disciplines in the metropole, the scientific practices and aims were now much more clearly defined and unified.

This thesis has shown that there is much to be gained by broadening the focus away from a nation-centred study of Arctic exploration and science in the Arctic. While I focused on Danish, British, and English speaking Canadian explorers, it would be instructive to consider the practices of explorers from other nations in the Arctic. In particular, such a study could examine the fruitful collaborations between the HBC and American institutions such as the Smithsonian. This would draw on Ted Binnema's work that shows the important role of the HBC as a patron of science in North America.<sup>17</sup> There were many American Arctic explorers, in particular in the second half of the nineteenth century, and comparing their scientific practices to those examined in this thesis would generate important insights on the institutionalization of science and American imperialism in the Arctic. Such a study would draw on the work of Naomi Oreskes' book *The Rejection of Continental Drift* (1999) that demonstrated how the American geological community worked within a different kind of framework for determining what

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<sup>17</sup> Binnema, *Enlightened Zeal*.

counted as valid evidence, than in the case of the European geological community.<sup>18</sup> As I have shown, scientific practice and perceptions of the Arctic explorer differed both with regard to national context and time throughout the nineteenth century. Drawing on perspectives from other countries, especially those with a continued presence in the Arctic, would greatly add to the historiography of Arctic exploration and nineteenth-century scientific practice.

Finally, it would also be instructive to further consider in more detail the significance of the Arctic as a geopolitical space where multiple nations and natural environments came into contact and constructed perceptions of the Arctic and the self. This would draw on perspectives from maritime history such as the 'AHR Forum: Oceans of History' by Kären Wigen, Matt K. Matsuda, Alison Games, Peregrine Horden, and Nicholas Purcell, as well as insights from the geography of knowledge such as *Putting Science in its Place* (2003) by David Livingstone.<sup>19</sup> As I have demonstrated throughout this thesis, the Arctic was continuously reconstructed as a space during the nineteenth century, and, much like the oceans examined in the historiography of maritime history, it was unstable, interconnected, and functioned as a network. Further research on this aspect of Arctic exploration would greatly add to the insights of foundational works on perceptions of the Arctic such as Eric Wilson's *The Spiritual History of Ice* (2003).<sup>20</sup>

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<sup>18</sup> Naomi Oreskes, *The Rejection of Continental Drift: Theory and Method in American Earth Science: Theory and Method in American Earth Science* (Oxford University Press, 1999).

<sup>19</sup> Livingstone, *Putting Science in Its Place*; Wigen, "Introduction, AHR Forum, Oceans of History."

<sup>20</sup> Wilson, *The Spiritual History of Ice*.

A comprehensive examination of all the explorers in the Arctic during the nineteenth century would be beyond the scope of any one study, as would a comparison of single examples of explorers from each national or cultural context that were present in the Arctic. In this thesis it was my hope to show what can be learned by comparing the scientific practices of Arctic explorers, as expressed in their travel narratives, through a transnational lens. I combined the insights from four major historiographical themes to show how shifting attention away from nation-centred studies of Arctic exploration, as well as how research of explorers were utilized by elite scientific practitioners in the metropole, can create new and exciting perspectives. I demonstrated that travel narratives were important expressions of scientific research in the Arctic, and most importantly I reveal the transformation from science in the Arctic, to Arctic science.

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